Table of Contents

Preface ................................................................................................................................................ xvi

Section 1
Security

Chapter 1
Dual-Level Attack Detection, Characterization, and Response for Networks under DDoS Attacks ..... 1
  Anjali Sardana, Indian Institute of Technology Roorkee, India
  Ramesh C. Joshi, Indian Institute of Technology Roorkee, India

Chapter 2
Improving Effectiveness of Intrusion Detection by Correlation Feature Selection ......................... 22
  Hai Thanh Nguyen, Gjøvik University College, Norway
  Katrin Franke, Gjøvik University College, Norway
  Slobodan Petrović, Gjøvik University College, Norway

Chapter 3
Threat and Risk-Driven Security Requirements Engineering ......................................................... 36
  Holger Schmidt, Technical University of Dortmund, Germany

Chapter 4
Establishing a Personalized Information Security Culture .......................................................... 53
  Shuhaili Talib, University of Plymouth, UK & International Islamic University, Malaysia
  Nathan L. Clarke, University of Plymouth, UK & Edith Cowan University, Australia
  Steven M. Furnell, University of Plymouth, UK & Edith Cowan University, Australia

Chapter 5
2-ClickAuth: Optical Challenge-Response Authentication Using Mobile Handsets ...................... 70
  Anna Vapen, Linköping University, Sweden
  Nahid Shahmehri, Linköping University, Sweden
Chapter 6
On Cryptographically Strong Bindings of SAML Assertions to Transport Layer Security .......... 89
Florian Kohlar, Ruhr University Bochum, Germany
Jörg Schwenk, Ruhr University Bochum, Germany
Meiko Jensen, Ruhr University Bochum, Germany
Sebastian Gajek, Tel Aviv University, Israel

Chapter 7
An Integrated Approach for the Enforcement of Contextual Permissions and Pre-Obligations .... 107
Yehia Elrakaiby, TELECOM Bretagne, France
Frédéric Cuppens, TELECOM Bretagne, France
Nora Cuppens-Boulahia, TELECOM Bretagne, France

Chapter 8
Online Authentication Using Smart Card Technology in Mobile Phone Infrastructure ............... 127
Teddy Mantoro, International Islamic University Malaysia, Malaysia
Admir Milišić, International Islamic University Malaysia, Malaysia
Media A. Ayu, International Islamic University Malaysia, Malaysia

Section 2
Commerce

Chapter 9
Systems Development Methodology for Mobile Commerce Applications .............................. 146
Muazzan Binsaleh, Prince of Songkla University, Thailand
Shahizan Hassan, Universiti Utara Malaysia, Malaysia

Chapter 10
FlexRFID Middleware in the Supply Chain: Strategic Values and Challenges ...................... 163
Mehdia E. Ajana, ENSIAS Rabat, Morocco
Hamid Harroud, Alakhawayn University in Ifrane, Morocco
Mohammed Boulmalf, Alakhawayn University in Ifrane, Morocco
Mohammed El Koutbi, ENSIAS Rabat, Morocco

Section 3
Networks

Chapter 11
Prioritization Schemes in Queuing Handoff and New Calls to Reduce Call Drops in Cellular Systems ......................................................................................................................... 179
Allam Mousa, An-Najah National University, Palestine
Chapter 12
A Proposal for Enhancing the Mobility Management in the Future 3GPP Architectures
Joel Penhoat, Orange Labs, France
Karine Guillouard, Orange Labs, France
Servane Bonjour, Orange Labs, France
Pierrick Seïtè, Orange Labs, France

Chapter 13
Reducing Network Overhead with Common Junction Methodology
Shashi Bhushan, Haryana Engineering College Jagadhri, India
Mayank Dave, National Institute of Technology Kurukshetra, India
R.B. Patel, DCRUST Murthal, India

Chapter 14
Resource Allocation for Multi Access MIMO Systems
Shailendra Mishra, Kumaon Engineering College, India
Durg Singh Chauhan, Uttrakhand Technical University, India

Chapter 15
An Adaptive Backoff Algorithm for Mobile Ad Hoc Networks
Yaser Khamayseh, Jordan University of Science and Technology, Jordan
Muneer Bani Yassein, Jordan University of Science and Technology, Jordan
Iman I. Badran, Jordan University of Science and Technology, Jordan
Wail Mardini, Jordan University of Science and Technology, Jordan

Chapter 16
Cooperative Caching in Mobile Ad Hoc Networks
Naveen Chauhan, National Institute of Technology Hamirpur, India
Lalit K. Awasthi, National Institute of Technology Hamirpur, India
Narottam Chand, National Institute of Technology Hamirpur, India
Ramesh C. Joshi, Indian Institute of Technology Roorkee, India
Manoj Misra, Indian Institute of Technology Roorkee, India

Chapter 17
Enhancing Data Availability in MANETs with Cooperative Caching
Prashant Kumar, National Institute of Technology Hamirpur, India
Naveen Chauhan, National Institute of Technology Hamirpur, India
Lalit K. Awasthi, National Institute of Technology Hamirpur, India
Narottam Chand, National Institute of Technology Hamirpur, India
Chapter 18
An Energy-Efficient Multilevel Clustering Algorithm for Heterogeneous Wireless Sensor Networks ................................................................................................................................................. 286
Surender Soni, National Institute of Technology Hamirpur, India
Vivek Katiyar, National Institute of Technology Hamirpur, India
Narottam Chand, National Institute of Technology Hamirpur, India

Chapter 19
Analysis of Sensors’ Coverage through Application-Specific WSN Provisioning Tool ............... 306
Sami J. Habib, Kuwait University, Kuwait

Section 4
Audiovisual Recognition

Chapter 20
Primary Research on Arabic Visemes, Analysis in Space, and Frequency Domain ..................... 319
Fatma Zohra Chelali, Houari Boumedienne University of Sciences and Technologies, Algeria
Amar Djeradi, Houari Boumedienne University of Sciences and Technologies, Algeria

Compilation of References ............................................................................................................ 338

About the Contributors .................................................................................................................... 362

Index ........................................................................................................................................... 374