Managing TRUST in Cyberspace

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Contents

Preface vii
Contributors ix

1. **Analyzing Trust and Security in Computing and Communications Systems** 1
   Al-Sakib Khan Pathan

2. **Cloud Computing: Trust Issues, Challenges, and Solutions** 13
   Sanchika Gupta, Padam Kumar, and Ajith Abraham

3. **A Survey of Trust and Trust Management in Cloud Computing** 41
   Vimal Kumar, Brijesh Chejerla, Sanjay Madria, and Mukesh Mohania

4. **Trust Models for Data Integrity and Data Shredding in Cloud** 71
   Ashutosh Saxena, Nitin Singh Chauhan, and Sravan Rondla

5. **Key Management Solutions for Database as a Service: A Selective Survey** 93
   Sumitra Binu and Pethuru Raj Chelliah

6. **Trustworthy Coordination in *Ad Hoc* Networks** 113
   Aakanksha and Punam Bedi

7. **Toward a Computational Trust Model for Secure Peer-to-Peer Communication** 131
   Shyam P. Joy and Priya Chandran

8. **Trust in Autonomic and Self-Organized Networks** 169
   Karuppanan Komathy

9. **Security and Quality Issues in Trusting E-Government Service Delivery** 197
   Maslin Masrom, Edith AiLing Lim, and Sabariyah Din

10. **Context-Aware E-Commerce Applications: Trust Issues and Their Solutions** 219
    Farag Azzedin, Sajjad Mahmood, and Muhammad Akhlaq

11. A Walk-Through of Online Identity Management 239
Ravi Sankar Veerubhotla and Richa Garg

12. Trust in Digital Rights Management Systems 263
Tony Thomas

13. Privacy and Trust Management in Safety-Related C2X Communication 283
Axel Sikora

14. Using Trust and Argumentation in Multiagent Recommender Systems 315
Punam Bedi and Pooja Vashisth

15. A Multiagent Framework for Selection of Trustworthy Service Providers 339
Punam Bedi, Bhavna Gupta, and Harmeet Kaur

16. Trust Issues in Modern Embedded Computing 361
Alex Pappachen James and Sugathan Sherin

17. A Framework of Content- and Context-Based Network Monitoring 371
Eliot Foye, Shivani Prasad, Steven Sivan, Stephen Faatamai, Wei Q. Yan, and William Liu

18. A Comparison of Three Sophisticated Cyber Weapons 387
Makkuva Shyam Vinay and Manoj Balakrishnan

19. Trust in Cyberspace: New Information Security Paradigm 405
Roberto Uzal, Narayan C. Debnath, Daniel Riesco, and German Montejano

20. A Comprehensive Survey of Antiforensics for Network Security 419
Rahul Chandran and Wei Q. Yan

21. Password Security and Protection 449
Emery Moodley, Gary Huo, Mindy Hsieh, Stephen Cai, and Wei Q. Yan

Index 471

Preface

Traditional security mechanisms restrict access to authorized users only, in order to protect resources from malicious users. However, in many contexts, we must protect ourselves from those who offer resources, so that the problem is in fact reversed. This improper usage cannot be addressed by traditional security mechanisms, and the issues relate more to trustworthiness than security. Trust is a vital factor in our daily coexistence with other people, who can be unpredictable. Trust helps to reduce the uncertainty caused by this unpredictability to an acceptable level. The notion of trust includes trust management systems. These systems gather information required for creating a trust relationship and dynamically monitor and fine-tune present relationships. Thus, trust management provides a basis for cooperation to develop. The schemes include both centralized and distributed approaches.

The main aim of this book is to provide relevant theoretical frameworks and the latest research findings in the area of trust management. This includes cross-disciplinary examination of fundamental issues underpinning computational trust models. The book thoroughly discusses various trust management processes for dynamic open systems and their applications. Moreover, most of the chapters are written in a tutorial style so that even readers without a specialized knowledge of the subject can easily grasp some of the ideas in this area. There are 21 chapters in this book which discuss trust and security in cloud computing, peer-to-peer (P2P) networks, autonomic networks, multiagent systems, vehicular *ad hoc* networks, digital rights management, e-commerce, e-governance, embedded computing, and a number of other topics. The intended audience of this book mainly consists of graduate students, researchers, academics, and industry practitioners working in areas such as distributed computing and Internet technologies. The book is not written in textbook style. Most of its content is based on the latest research findings. It also discusses future research directions in trust management. It is hoped that this book will influence more individuals to pursue high-quality research on trust management.

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