Editorial

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Biographical notes: Hsiao-Hwa Chen is currently a full-time Professor, Institute of Communications Engineering, National Sun Yat-Sen University, Taiwan. He has been a visiting Professor in the Department of Electrical Engineering, University of Kaiserslautern, Germany, in 1999, the Institute of Applied Physics, Tsukuba University, Japan, in 2000, Institute of Experimental Mathematics, University of Essen, Germany in 2002 (under DFG Fellowship), Department of Information Engineering, The Chinese University of Hong Kong, 2003 and Department of Electronics Engineering, The City University of Hong Kong, 2006. His current research interests include wireless networking, MIMO systems and next generation CDMA technologies for future wireless communications. He has authored or co-authored over 200 technical papers in major international journals and conferences and five books in the areas of communications, including 'Next Generation Wireless Systems and Networks' (512 pages) published by John Wiley and Sons. He served or is serving as International Steering Committee member, Symposium Chair and General Co-Chair of more than 50 international conferences, including IEEE VTC, IEEE ICC, IEEE Globecom and IEEE WCNC, etc. He served or is serving as the Editor, Associate Editor, Editorial Board member or Guest Editor of many international journals, including IEEE Communications Magazine, IEEE JSAC, IEEE Vehicular Technology Magazine, IEEE Wireless Communications Magazine, IEEE Network Magazine, IEEE Transactions on Wireless Communications, IEEE Communications Letters, Wiley's Wireless Communications and Mobile Computing (WCMC) Journal, Wiley's International Journal of Communication Systems, etc. He is an adjunct Professor of Zhejiang University, China and Shanghai Jiao Tung University, China. Currently, he is serving as the Chair of Radio Communications Committee, IEEE Communications Society.

Mohsen Guizani is currently a Professor and the Chair in the Department of Computer Science at Western Michigan University. He received a BS and MS in Electrical Engineering; an MS and PhD in Computer Engineering in 1984, 1986, 1987 and 1990, respectively, from Syracuse University, Syracuse, New York. His research interests include computer networks, wireless communications and mobile computing and optical networking. He currently serves on the editorial boards of six technical Journals and the Founder and EIC of *Wireless Communications and Mobile Computing* Journal published by John Wiley. He is also the Founder and General Chair of the IEEE International Conference of Wireless Networks, Communications and Mobile Computing (IEEE WirelessCom 2005). He is the author of four books and guest edited a number of special issues in Journal and Magazines. He also served as Member, Chair and General Chair of a number of conferences. He has more than 180 publications in refereed journals and conferences. He received both the Best Teaching Award and the Excellence in Research Award from the University of Missouri-Columbia in 1999 (a college wide competition). He won the best Research Award from KFUPM in 1995 (a university wide competition). He was selected as the Best Teaching Assistant for two consecutive years at Syracuse University, 1988 and 1989. He is the Chair of TAOS and Vice-Chair of TCPC IEEE Technical Committees. He is an active senior member of IEEE, member of IEEE Communication Society, IEEE Computer Society, ASEE, ACM, OSA, SCS and Tau Beta Pi.

1 Introduction

We are very pleased to present this Special Issue on Computer and Network Security to the readers as an effort to offer a set of quality publications in various subjects on the Computer and Network Security area. In particular, all papers included in this Special Issue were collected and are substantially enhanced versions of the papers presented in GLOBECOM 2005 Computer and Network Security Symposium, for which we both served as the symposium Co-Chairs. In addition, all papers published in this Special Issue have undergone a rigorous review process and each paper was reviewed by at least three experts in this area. Therefore, we are very happy to see that the papers survived from the review process maintain a very high quality and address various important issues in Computer and Network Security, a research area attracting increasingly attention in the community recently.

Global information and communication networks offer a wide range of social and economic benefits and generate enormous potential for the development of the global information society and electronic commerce. At the same time, wide applications of internet on wireless, wired and optical fibre platforms have posed a great challenge to both service providers and system design engineers to ensure secure transactions over the communication networks infrastructures. For global networks to be trustworthy, infrastructures and services must be reliable, transactions must be secure and private and personal data must be effectively protected. At the same time, appropriate countermeasure mechanisms must be available if things go wrong. The objectives of computer and network security involve guarding data and Information Technology (IT) networks against many types of threats; recent reports have raised many alarms to that effect. Such objectives have traditionally depended on governments, but given the fast-paced evolution of IT, the private sector plays an increasing role. Communication and information networks use security mechanisms to actively manage access to data and other resources. The mechanisms include individual user profiles that identify users and their access privileges and mechanisms that differentiate between different resource environments. Despite the above challenges, communication networks and information security is critical for successful applications of global information and communication networks that virtually cover all regions in the world. Consequently, a special issue on the topic of Computer and Network Security is of great interest to the world community and very timely.

There are in total 12 papers that have been included in this Special Issue. They cover almost all important subjects in the area of Computer and Network Security. In order to save the space, we will not give a summary for each of them, but just a list of the papers as follows:

1 DKMS: Distributed Hierarchical Access Control for Multimedia Networks, by Ruidong Li, Jie Li and Hsiao-Hwa Chen.

2 Adaptive trust-based anonymous network, by Pitipatana Sakarindr and Nirwan Ansari.

3 Securing Wi-Fi Networks with Position Verification - Extended Version, by Robert A. Malaney.

4 On Pairwise Connectivity of Wireless Multihop Networks, by Fangting Sun and Mark Shayman.

5 Hash-AV: Fast Virus Signature Scanning by Cache-Resident Filters, by Ozgun Erdogan and Pei Cao.

6 Secure Message Delivery in Publish/Subscribe Networks Using Overlay Multicast, by Paul Rabinovich and Robert Simon.

7 Optimal worm-scanning method using vulnerable-host distributions, by Zesheng Chen and Chuanyi Ji.

8 Vulnerabilities in distance-indexed IP traceback schemes, by J. Pan, L. Cai and Sherman Shen.

9 Single Packet IP Traceback in AS-level Partial Deployment Scenario, by Turgay Korkmaz, Chao Gong, Kamil Sarac and Sandra G. Dykes.

10 End-to-End Pairwise Key Establishment using Node Disjoint Secure Paths in Wireless Sensor Networks, by Hui Ling and Taieb Znati.

11 Design and Analysis of a Multi-packet Signature Detection System, by N. Sertac Artan and H. Jonathan Chao.

12 Analysis of Flow-Correlation Attacks in Anonymity Network, by Ye Zhu, Xinwen Fu, Riccardo Bettati and Wei Zhao.

13 Defense against Packet Injection in Ad Hoc Networks, by Qijun Gu, Peng Liu, Chao-Hsien Chu and Sencun Zhu.

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