
Editorial

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Biographical notes: Yang Xiao is currently with Department of Computer Science at The University of Alabama. His research areas are security and communications/networks. He has published more than 200 refereed journal papers and over 200 refereed conference papers and book chapters related to these research areas.

Security and privacy issues are important and active topics for computer systems and networks. Although there are many research papers in the related areas (Kim et al., 2006; Cam, 2007; Janies et al., 2007; Misisic et al., 2008; Peter et al., 2008; Yao et al., 2008; Chang et al., 2008; Szczechowiak et al., 2010; Singh and Muthukkumarasamy, 2010; Kalogridis et al., 2011; Krontiris and Dimitriou, 2011; Kundur et al., 2011; Li et al., 2011; Poornima and Amberker, 2011; Tran et al., 2011; Xiao, 2011; Xiao et al., 2011; Yu et al., 2011; Zhang and Gunter, 2011), new researches are active these areas as indicated in this special issue. This special issue is dedicated to security and privacy issues, selected papers from the conferences of SmartGridCom 2011 and CCNC 2012.

Five papers were selected for this special issue. We introduce them as follows. The first paper, 'Managing hybrid packet filter's specifications', by Neji and Bouhoula, presents a two-staged prefix-based model to achieve good performance packet filtering policies. The second paper, 'Rapid anomaly detection for smart grid infrastructures through hierarchical pattern matching,' by Baig, presents malicious attacks against Smart Grid Infrastructure (SGI) operations as well as light-weighted pattern matching techniques for detecting anomalous behaviour of the smart grid devices. The third paper, 'An adaptive tit-for-tat strategy for IEEE 802.11 CSMA/CA protocol', by Boyer et al., proposes a medium access control protocol which can fairly share the available network resources among cooperative nodes with the presence of selfish nodes and presents a game theoretical study. The fourth paper, 'Intrusion prevention with two-level user authentication in heterogeneous wireless sensor networks', by Butun et al., proposes a user authentication scheme for heterogeneous wireless sensor networks to prevent intrusions using public and secret key cryptography schemes. The last paper, 'MAC aggregation protocols resilient to DoS attacks', by Kolesnikov and Lee, proposes a medium access control aggregation scheme to allow relay sensors to greatly reduce transmission overhead and to present resilience to DOS (Denial of Service) attacks.

We would like to thank all the authors as well as reviewers for their support.

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