Editorial

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Biographical notes: Elis Kulla is currently a Lecturer at Department of Information and Computer Engineering, Okayama University of Science since April 2014. He received his ME from Polytechnic University of Tirana (PUT), Albania, in 2010. He graduated his PhD in Engineering from Fukuoka Institute of Technology (FIT), Japan, in 2013. He has published several works in peer-reviewed international journals and international conference proceedings and received different awards. He is involved in many administrative functions in international conferences. His research interests include mobile ad-hoc networks, wireless sensor networks, ad-hoc vehicular networks, mesh networks, fuzzy logic, genetic algorithms, machine learning etc.

Makoto Takizawa is currently a Full Professor at Department of Advanced Sciences, Hosei University since April 2013. He served as a Full Professor at Seikei University (2008–2013) and Tokyo Denki University (1986–2008). He served at Board of Governors (2003–2005, 2006–2008) and International Advisory Committee of TCDP at IEEE Computer Society. He organised several international conferences and served as Editor in several international journals. He has published many scientific papers and has been awarded several awards. His research interests are mainly in distributed systems and include: communication protocols, database systems, transaction management, fault-tolerant systems, and P2P systems.

Recent technological development have increased the interest in related fields such as collaborative computing, intelligent systems and distributed networks.

This special issue addresses recent advances and research findings on networking services including context centric networks, mobile networks, P2P networks, secure and resilient networks as well as algorithms on energy efficiency, load balancing, test-beds

and performance evaluations. The papers address fundamental results, implementations and case studies covering topics from grid, P2P and networking services.

The first paper 'Real threats using GTP protocol and countermeasures on a 4G mobile grid computing environment' discusses real threats on 4G mobile grid computing environment. It focuses on threats that use GPRS Tunnelling Protocol (GTP). They also propose a new algorithm to protect the network from such threats. Its overall accuracy (represented by the F-score) was found to be 98.7%.

In the second paper 'Reusable garbled gates for new fully homomorphic encryption service', the authors use reusable garbled gates and propose a novel way to provide fully homomorphic encryption service. The work is an approach towards combining garbled circuits with fully homomorphic encryption service. While reducing the communication complexity is a goal for most research on garbled circuits, the authors also claim that reusable garbled circuits can reduce the communication complexity of $O(n)$ to $O(1)$.

The third one 'Using trustworthy web services for secure e-assessment in collaborative learning grids' presents innovative trustworthy services to support secure e-assessment in web-based collaborative learning grids. They investigate information security requirements in online assessment learning activities. They also present effective applications of their previous trustworthiness model in online collaborative learning courses. Evaluation in a real context is provided while implications of this study are eventually remarked and discussed throughout the paper.

In the fourth paper 'Energy-efficient virtual network embedding in networks for cloud computing', the authors propose an Energy-Efficient Virtual Network Embedding (EEVNE) method for cloud computing networks. EEVNE is based on the evaluation of the energy consumption by hosts, the allocation of virtual resources both in nodes and links, as well as the cost and revenue in network virtualisation. Simulation results show that the proposed method can effectively reduce energy consumption when large quantities of virtual networks arrive and depart over time.

The author of the fifth paper 'A negotiation-based cooperative RBAC scheme' proposes a cooperative Role-based Access Control (RBAC) scheme with negotiation-based hierarchical virtual role. The authors claim that by using this method it is possible manage more than one multiple-agent server on the cooperation domain. Furthermore, it aims to provide a hierarchical virtual role structure, allowing flexible negotiations among multiple-agent servers.

The sixth paper 'Malware algorithm classification method based on big data analysis' presents a new method for classifying malware algorithms. The authors claim that it performs with high accuracy and high coverage. The method combines big data analysis with software security technologies such as feature extraction, machine learning, binary instrumentation and dynamic instruction flow analysis to achieve automated classification of malware algorithms. The performance and correctness of the method is tested by several classification experiments. Future directions for improving the method can also be found in the paper.

The last one 'Experimental results of a Raspberry Pi and OLSR based wireless content centric network testbed: comparison of different platforms' presents the implementation of a testbed for Content Centric Networks (CCN). The authors evaluate the network performance while considered delay and jitter metrics. The experimental results show low values of delay and jitter, when Optimised Link State Routing (OLSR) protocol is used.