Editorial

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Biographical notes: Hangbae Chang is a Professor at Chung-Ang University. He received his PhD in Information System Management from Graduate School of Information at Yonsei University, Korea. He has published many research papers in international journals and conferences. He has been served as chairs, program committee or organising committee for many international conferences and workshops; FutureTech, WCC, ITCS, CSA, PlatCon and so on. His works have been published in journals such as *Journal of Super Computing*, *Electronic Commerce Research, Computers and Mathematics with Applications*, *Mathematical and Computer Modeling*, *Mobile Information Systems*, *Personal and Ubiquitous Computing*, and *Journal of Internet Technology*. His research interests include issues related to security management and system in internet of things environment.

Kyungjin Cha received her Honours degree in Business Information Systems from the University of Tasmania in 2006 and her PhD in Management Information Systems from the Australian National University in 2011. She is an Assistant Professor in the Department of Global Business at Kangwon National University at Chuncheon, South Korea. Her doctoral dissertation focuses on understanding how organisation can improve their ability to innovate and transform with IT. Her current research interests include organisational aspects of IT, IT value measure, smartwork and data mining.

The present IT and service environment is rapidly moving towards the era of 'internet of things' (IoT), which provides autonomous services without human intervention, via physical objects connected to the internet.

Unlike the current internet, IoT means a new network space in which all things around the world can be connected, including humans. It has the ability and intelligence to send/receive information with the benefit of multiple data processing.

In this environment, people can be provided with various convergence services through the intelligent collaborative process between physical things surrounding humans, with minimal spatial/temporal constraints. Autonomous convergence service can

be provided, since the context of the user is recognised in the IoT environment. It is expected that the IoT market will grow to a value of 3,090 billion dollars by 2020, as it grows by 30% per year.

However, the possibility exists that various types of information can be easily exposed in the process of resource binding among the things required to compose the services in the current computing environment. In order to pre-emptively respond to these risks and provide a sustainable IoT environment and reliable services, it is necessary to study the advanced convergence of security services.

The main aim of this special issue is therefore to bring together researchers and practitioners working in related fields in advanced IT and security services in the IoT environment. The purpose of the issue is to present the latest research and propose strategies for the development direction of research into guiding advanced IT and security services in the IoT environment.

More specifically, the paper entitled 'Analysis of random noise generated by graphic processing units' by Yongjin Yeom and Taeill Yoo. The paper entitled 'A privacy-preserving URL-hiding scheme for the web of things' by Jin Hyun Park, Im Young Jung and Soonja Kim. The paper entitled 'Empirical analysis of anti-reversing schemes for protecting mobile codes in the internet-of-things' by Haehyun Cho, Hyunki Kim, Jongsu Lim, Junghwan Lee and Jeong Hyun Yi. The paper entitled 'Analysis on the thermo-control characteristics of moxibustion device based on temperature sensing data' by Taegon Kim and Minwoo Cheon. The paper entitled 'Secure rank correlation computation for IoT applications' by Kok-Seng Wong and Myung Ho Kim. The paper entitled 'Efficient resource provisioning for virtual clusters on the cloud' Shao-Jui Chen, Chia-Ching Chen, Hsiang-Lun Lu and Wei-Jen Wang. The paper entitled 'System security manager education framework' by Geunhye Kim and Mina Shim. The paper entitled 'A study on decision support system based on the fuzzy logic approach for the livestock service management' by Saraswathi Sivamani, Hong-Geun Kim, Jangwoo Park and Yongyun Cho. The paper entitled 'Design and implementation of lightweight network access control technique on wireless router' by Hyeji Heo and Jaecheol Ryou. The paper entitled 'Keyless signature infrastructure and PKI: hash-tree signatures in pre- and post-quantum world' by Ahto Buldas, Risto Laanoja and Ahto Truu. The paper entitled 'Design and implementation of Hadoop platform for processing big data of logistics which is based on IoT' by Nam-Ho Kim. The paper entitled 'Comparing security vulnerability by operating system environment' by Dongkyun Seo and Kyungho Lee.

Eventually, we would like to extend our sincere appreciation to all the authors for their priceless dedication and also to the referees for their support and hard work for reviewing the papers in a timely manner despite of busyness. We firmly believe that the accepted papers would be a meaningful contribution to researchers, students, and practitioners studying this field of 'Advanced IT and security services in the internet of things environment'.