

## **IWUCA 2012**

The 3rd International Workshop on  
Ubiquitous Computing & Applications

## **IWCCA 2012**

The 1st International Workshop on  
Cloud Computing & Applications

December 20-22, 2012  
Hong Kong

“New Technology in Ubiquitous  
and Cloud Computing”

# **Proceeding**

## **CUTE 2012**

### **Host**

Korea Information Processing Society (KIPS)

### **Technical Co-Sponsors**

Future Technology Research Association (FTRA)  
LG CNS



**09:30 ~ 11:30 Session 3: Cloud and Grid Systems**

**(Salon VII) (Chair: Dr. Pengfei You, National University of Defense Technology, China)**

(074) An Integration Framework of Cloud Computing with Wireless Sensor Networks, *Pengfei You, Huiba Li, Yuxing Peng, Ziyang Li*

(102) Extending Grid Infrastructure Using Cloud Computing, *Mohan Krishna Varma N, Eunmi Choi*

(182) Task Replication and Scheduling based on Nearest Neighbor Classification in Desktop Grids, *Joon-Min Gil, SungSuk Kim, JongHyuk Lee*

(110) Improved CloudSim for Simulating QoS –based Cloud Services, *Jun-Kwon Jung , Nam-Uk Kim, Sung-Min Jung, Tai-Myoung Chung*

(141) Research on Meteorology Indices Forecasting Framework based on Hybrid Cloud Computing Platforms, *Jia Fu, Junchao Wang, Lu Jing, Chen Zhenghong, Mingqiong He*

(148) Entropy-based Grouping Techniques for Resource Management in Mobile Cloud Computing, *JiSu Park, Eun-Young Lee*

**09:30 ~ 11:30 Session 4: IWUCA - I**

**(Salon VIII) (Chair: Prof. Ki-Sik Kong, Namseoul University, Korea)**

(135) Dynamic Routing Algorithm with QoS-Adaption in Heterogeneous Network, *Songhua Huang, Hailin Chen, Feng Ding, Ying Liu, Jun Tao*

(163) QoS-Aware Routing for Conserving Resources in Large-Scale Mobile Ad Hoc Networks, *Ahyoung Lee, Ilkyeun Ra*

(184) Enhancing Signal-driven Proxy Mobile IPv6 for Distributed Mobility Management, *Ki-Sik Kong*

(008) Simulation Study on Handover Schemes in Mobile LISP Networks, *Moneeb Gohar, Sang-Il Choi, Seok-Joo Koh*

(024) Load Balancing Reliable Communication in Ad hoc Networks, *Anh Tai Tran, Myung Kyun Kim*

(127) Efficient Capacity Allocation for Real-Time Traffic in MF-TDMA based GEO Satellite Systems, *Bosung Kim, Geunkyung Choi, Byeong-hee Roh*

**11:30 ~ 13:00 Lunch**

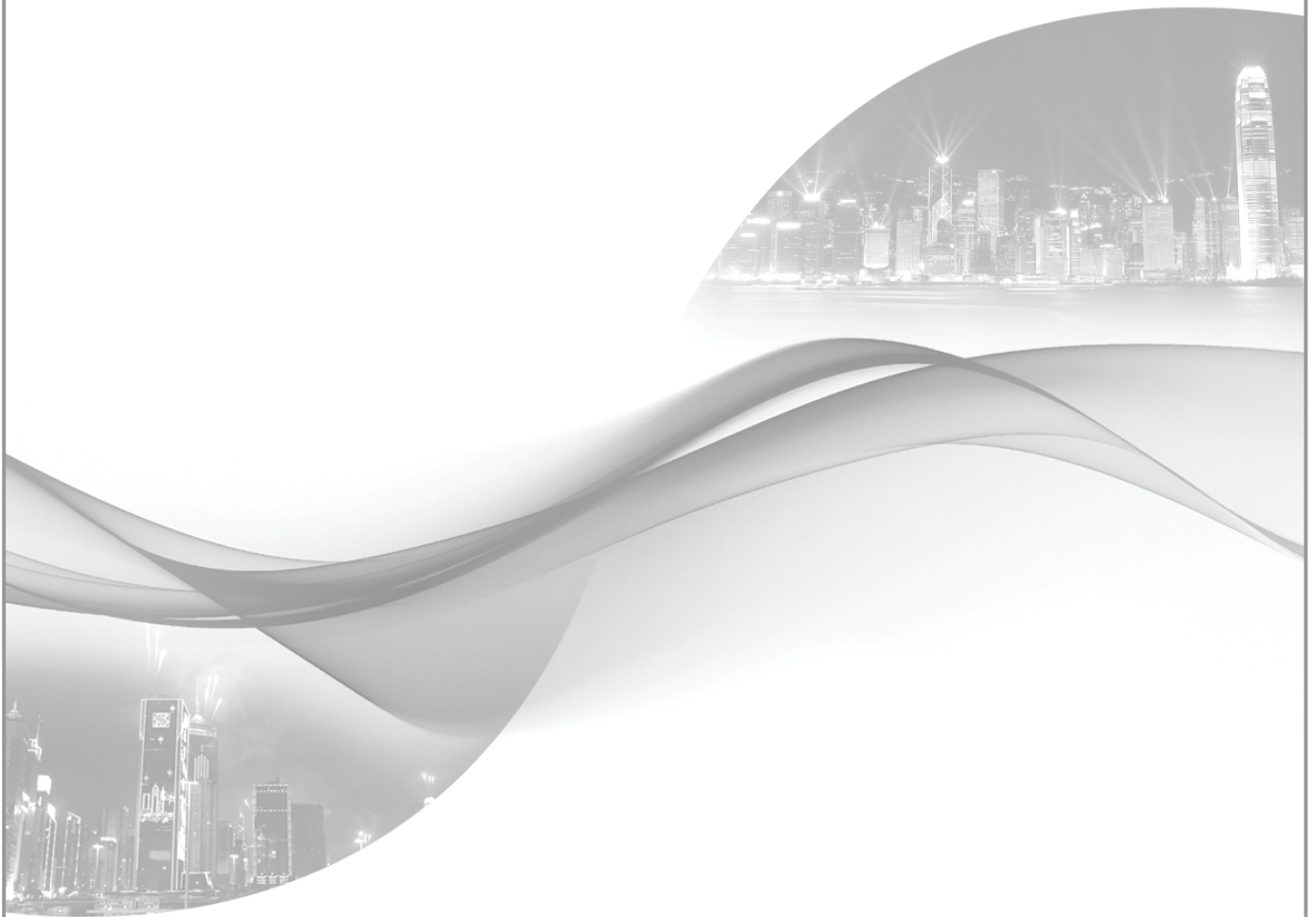
**13:00 ~ 13:20 Opening Ceremony (Salon VIII and Salon IX)**

**13:20 ~ 14:20 Invited Talk 1 (Salon VIII and Salon IX) - Dr. Mohammad S. Obaidat**

IEEE Fellow and SCS Fellow  
Past President, Society for Modeling & Simulation International (SCS)  
Professor of Department of Computer Science and Software Engineering,  
Monmouth University, USA

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## Simulation Study on Handover Schemes in Mobile LISP Networks

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### Abstract

The Locator Identifier Separation Protocol (LISP) has been made as an identifier-locator separation scheme for scalable Internet routing and mobility support. However, the issue of handover control for seamless mobility is still a serious challenge in the mobile LISP networks. It is noted that the existing LISP-based handover schemes are based on the centralized approach and tend to induce larger handover delay and packet loss. To overcome this problem, we propose the distributed mobility control architecture. In the proposed architecture, we assume that a host has a globally unique and hierarchical Endpoint Identifier (EID) which contains the information of its home network domain. Each network domain has a Distributed Map Server (DMS) for distributed management of EID and Locator (LOC) mappings. For roaming support between different domains, each DMS maintains its Home EID Register and Visiting EID Register, which are used to keep the mappings of EID and LOCs for mobile nodes in the distributed manner. Based on the distributed mobility architecture, in this paper, we suggest a handover control scheme. In the proposed handover scheme, the path for data transmission to a mobile node will be optimized, whenever a mobile node moves into a new router region within a domain by handover. From the ns-2 simulation results, it is shown that the proposed scheme can give better performance than the existing LISP-based schemes in terms of handover delay and throughput. For further study, the inter-domain handover issue needs to be considered in the distributed mobility architecture in the LISP-based mobile networks.

**Key Words:** LISP, mobile networks, mobility, handover, distributed control, ns-2 simulation, analysis

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