

2007 International Symposium on Applications and the Internet- Workshops

(SAINT Workshops)

**Hiroshima, Japan
15-19 January 2007**



**IEEE Catalog Number: CFP0772B-PRT
ISBN: 978-1-4244-3133-5**

TABLE OF CONTENTS

SESSION 1: PEER-TO-PEER AND SENSOR NETWORK SERVICE PLATFORMS

Zero-Programming Sensor Network Deployment.....	1
<i>Karl Aberer, Manfred Hauswirth, and Ali Saheli</i>	
Towards a Mobile Peer-to-Peer Service Platform.....	5
<i>Wolfgang Kellerer, Zoran Despotovic, Maximilian Michel, Quirin Hofst��tter, and Stefan Z��els</i>	

SESSION 2: CONTEXT AWARENESS

Privacy-Aware Context Discovery for Next Generation Mobile Services.....	9
<i>Cristian Hesselman, Henk Eertink, and Martin Wibbels</i>	
Managing and Delivering Context-Dependent User Preferences in Ubiquitous Computing Environments	13
<i>Michael Sutterer, Olivier Coutand, Olaf Droegehorn, Klaus David, and Kees van der Sluijs</i>	

SESSION 3: SERVICE ARCHITECTURES AND IMS EVOLUTION

Dynamic Community Entertainment Services Composition on Next Generation Mobile Network IP Multimedia Subsystem.....	17
<i>Yasuhiro Araki, Akio Yamamoto, and Michael Sweeney</i>	
SPICE: Evolving IMS to Next Generation Service Platforms.....	21
<i>Sasu Tarkoma, Christian Prehofer, Anna V. Zhdanova, Klaus Moessner, and Ern�� Kovacs</i>	
Development and Publication of Generic Middleware Components for the Next Generation Mobile Service Platform.....	25
<i>Bharat Bhushan, Anthony Tarlano, Gerhard Fischer, and Jos Hendriks</i>	
Managing Variability of Mobile Value Added Service in Framework.....	29
<i>Xingping Huang, Peng Xu, and Fangchun Yang</i>	
Solutions for a Service Architecture in Pervasive Environments Based on WWRF WG2 Requirements.....	33
<i>Klaus David, Olaf Dr��gehorn, and Mika Klemettinen</i>	

SESSION 4: NEXT GENERATION SERVICE DELIVERY

Evolution of Next Generation Networks towards an Integrated Platform for IMS-Based IPTV Services	39
<i>Oliver Friedrich, Adel Al-Hezmi, Stefan Arbanowski, and Thomas Magedanz</i>	
QoS Mapping and Adaptation in Next Generation Networks.....	43
<i>E. Cerqueira, T. Sousa, A. Neto, L. Veloso, M. Curado, E. Monteiro, and P. Mendes</i>	

Reconfigurable Systems with a User-Centric Focus	47
<i>Giovanni Bartolomeo, Stefano Salsano, and Nicola Belfari-Melazzi</i>	

SESSION 5: MOBILE APPLICATIONS

Marauder's Map - Bringing People Together.....	51
<i>Raja Bose, Hen-I Yang, and Abdelsalam Helal</i>	
Privacy Management for Context Transponders.....	55
<i>Michael Fahrnair, Wassiou Sitou, and Bernd Spanfelner</i>	
Context-Aware Query Refinement for Mobile Web Search.....	59
<i>Shun Hattori, Taro Tezuka, and Katsumi Tanaka</i>	
MIDEA: Management of Disposable E-mail Addresses for Mobile Systems	63
<i>Daisuke Ochi</i>	

SESSION 1: RFID EMPOWERED BUSINESS

Customer Loyalty Based Dynamic Pricing by Using RFID-enabled Floor Level Sales Information.....	67
<i>Tatsuya Inaba</i>	
The Achievement of Hibiki Project - for the Spread Use of RFID	71
<i>Atsushi Honzawa, Yuichi Kobayashi, Shinichirou Fukushima, and Takanori Yamazoe</i>	
Transportation Quality Monitor Using Sensor Active RFID	75
<i>Kohei Mizuno and Masashi Shimizu</i>	

SESSION 2: INVITED TALK

Appliance Defined Ubiquitous Network.....	79
<i>Haruhisa Ichikawa, Masashi Shimizu, and Kazunori Akabane</i>	

SESSION 3: RFID WIRELESS SYSTEM

A Multi-Carrier UHF Passive RFID System	83
<i>Hsin-Chin Liu, Yung-Ting Chen, and Wen-Shin Tzeng</i>	
Investigation of the Threshold of Second Carrier Sensing in RFID Deployment.....	87
<i>Kin Seong Leong, Mun Leng Ng, and Peter H. Cole</i>	
A System to Test the Performance of RFID-Tagged Objects.....	91
<i>Hugo Mallinson, Steve Hodges, and Alan Thorne</i>	
Multipath Identification Using Steepest Gradient Method for Dynamic Inventory in UHF RFID	95
<i>Jin Mitsugi and Yu Shibao</i>	
Middleware Architecture in the Internet: Introduction	99
<i>Keith Hazelton</i>	

SESSION 1: AUTHENTICATION AND AUTHORIZATION

Attribute Aggregation and Federated Identity	102
<i>Nate Klingenstein</i>	
Multiple-Tiered Security Hierarchy for Web Applications Using Central Authentication and Authorization Service	106
<i>Hisashi Naito, Shoji Kajita, Yasushi Hirano, and Kenji Mase</i>	
A Privacy Oriented Extension of Attribute Exchange in Shibboleth	110
<i>Shoichiro Fujiwara, Takaaki Komura, and Yasuo Okabe</i>	
Simple and Secure Authentication Escrow for Rights Trading Protocol	114
<i>Keiichi Hirota and Noboru Sonehara</i>	

SESSION 2: MIDDLEWARE FOR NETWORK MANAGEMENT, APPLICATIONS AND GRID

A Policy-Based, Secure Access Control Mechanism for Network Roaming Infrastructures	118
<i>Tetsuo Imai, Hideaki Goto, and Hideaki Sone</i>	
Application for a Simple Device Authentication Framework: Device Authentication Middleware using Novel Smart Card Software.....	122
<i>Manabu Hirano, Takeshi Okuda, and Suguru Yamaguchi</i>	
Development of Management Interface to Configure Network Equipment	126
<i>Tomoyuki Iijima, Kunihiko Toumura, Hiroyasu Kimura, Makoto Kitani, and Takahisa Miyamoto</i>	
A Generic API for Retrieving Human-Oriented Information from Social Network Services	130
<i>Teruaki Yokoyama, Shigeru Kashihara, Takeshi Okuda, Youki Kadobayashi, and Suguru Yamaguchi</i>	
Peer-to-Peer Scheduling System with Scalable Information Sharing Protocol	134
<i>Norihiro Umeda, Hidemoto Nakada, and Satoshi Matsuoka</i>	
A Report of Campus-Wide IT Authentication Platform System Development in Osaka University.....	138
<i>Toyokazu Akiyama, Yuuichi Teranishi, Shingo Okamura, Eisaku Sakane, Go Hasegawa, Ken-ichi Baba, Hirotaka Nakano, and Shinji Shimojo</i>	
Data Management on Grid Filesystem for Data-Intensive Computing.....	142
<i>Hitoshi Sato and Satoshi Matsuoka</i>	

SESSION 1: DEVELOPMENT OF TOOLS FOR DISTANCE CLASSROOM

Bandwidth Adjustable DVTS on the Heterogeneous Internet Environments for Distance Learning.....	146
<i>Yasuo Tsuchimoto, Mohammad Abdul Awal, Poompat Saengudomlert, Teerapat Sanguankotchakorn, and Kanchana Kanchanasut</i>	
A Remote Hands-on Exercise Environment for an Asia-Wide Real-Time Workshop.....	150
<i>Achmad Basuki, Achmad H. Thamrin, Keiko Okawa, and Jun Murai</i>	
An Active Viewing System to Utilize Streaming Video for Education	154
<i>Masahiro Yachi and Jun Murai</i>	
Smart Classrooms Bring Top-Quality Education around the Globe.....	158
<i>Davar Pishva</i>	

An Asia-Wide Realtime Distributed Hands-On Workshop	162
<i>Shoko Mikawa, Patcharee Basu, Keiko Okawa, and Jun Murai</i>	
Cooperation Activity for Leaders of the Next Generation Internet.....	166
<i>Tohru Kondo and Atsushi Hikita</i>	
Advanced Experiments to Educate Technical High School Students for Creation of Ubiquitous Networked Society	170
<i>Kazuhisu Taniguchi, Ryuji Kaneda, Mika Kunishige, Aki Kojiri, Kaori Maeda, and Reiji Abara</i>	

SESSION 1: EXPERIMENTATION AND TESTBED

ANEMONE: A Pan-European Testbed to Validate IPv6 Mobility Technologies	174
<i>László Bokor, Nicolas Montavont, Paolo Di Francesco, Thierry Ernst, Tobias Hot, and Jaru Korva</i>	
Vehicle Communication Experiment Environment with MANET and NEMO	178
<i>Manabu Tsukada and Thierry Ernst</i>	
Deploying Reliable IPv6 Temporary Networks Thanks to NEMO Basic Support and Multiple Care-of Addresses Registration.....	182
<i>Romain Kuntz</i>	

SESSION 2: NEW TECHNOLOGY

Advances in MANEMO: Definition of the Problem Domain and the Design of a NEMO-Centric Approach.....	186
<i>B. McCarthy, C. Edwards, and M. Dunmore</i>	
A HIP Based Network Mobility Protocol.....	190
<i>Szabolcs Nováczki, László Bokor, and Sándor Imre</i>	
Multihoming in Nested Mobile Networks with Route Optimization	194
<i>Angeline Deleplace, Thierry Ernst, and Thomas Noel</i>	

SESSION 1: NEW TYPES OF SERVICES IN UBIQUITOUS NETWORK ERA

RFID Supplement for Mobile-Based Life Log System.....	198
<i>Atsunori Minamikawa, Nobuhide Kotsuka, Masaru Honjo, Daisuke Morikawa, Satoshi Nishiyama, and Masayoshi Ohashi</i>	
Nazca: A Geographic Location Service.....	202
<i>Mio Suzuki, Teruaki Yokoyama, Takuji Iimura, Shigeru Kashihara, Takeshi Okuda, and Suguru Yamaguchi</i>	
Mobile Media Content Sharing in UPnP-Based Home Network Environment.....	206
<i>Wei-Shun Liao, Yen-Ju Huang, and Chih-Lin Hu</i>	
An Extended and Operations for Retrieving a Flexible Information Unit from Tree Structured Data.....	210
<i>Taira Yoda, Hidenari Kiyomitsu, Kazuhiro Ohtsuki, and Jun-ya Morishita</i>	

SESSION 2: NEW SERVICE ENABLERS FOR UBIQUITOUS NETWORK

A P2P-based Mechanism for Managing Location-Dependent Contents in Ubiquitous Environments	214
<i>Tomoya Kawakami, Susumu Takeuchi, Yuichi Teranishi, Kaname Harumoto, and Shojiro Nishio</i>	
Topology Re-formation Algorithms for Ubiquitous P2P Networks Based on Response Statistics	218
<i>Hirokazu Nakano, Kaname Harumoto, and Shojiro Nishio</i>	
Instant Learning Sound Sensor for Ubiquitous Computing.....	222
<i>Yuya Negishi and Nobuo Kawaguchi</i>	
A Novel Unambiguous Multipath Mitigation Scheme for BOC (kn; n) Tracking in GNSS.....	226
<i>Sanghun Kim, Seungsoo Yoo, Seokho Yoon, and Sun Yong Kim</i>	

SESSION 1: PC SESSION

Local Production, Local Consumption Peer-to-Peer Architecture for a Dependable and Sustainable Social Infrastructure	230
<i>Kenji Saito, Eiichi Morino, Yoshihiko Suko, Takaaki Suzuki, and Jun Murai</i>	
Creating and Managing Service Level Agreement Networks	N/A
<i>Omer Rana and Kenji Saito</i>	

SESSION 2: SYSTEM AND MEASUREMENT

CHOP6: A DHT Routing Mechanism Considering Proximity	234
<i>Shouta Morimoto and Fumio Teraoka</i>	
N-TAP: A Platform of Large-scale Distributed Measurement for Overlay Network Applications	238
<i>Kenji Masui and Youki Kadobayashi</i>	

SESSION 3: GEOLOGICAL P2P

Overlay Network Considering the Time and Location of Data Generation	242
<i>Shinichi Doi, Satoshi Matsuura, Kazutoshi Fujikawa, and Hideki Sunahara</i>	
Content Cruising System under Dense Region of Mobile Nodes	246
<i>Takaaki Ishida and Masayoshi Imaike</i>	
Gippy: Campus GIS Information System Supported by P2P	250
<i>Fengyuan Xu, Zhiyi Fang, and Xiao Han</i>	

SESSION 4: SOCIETY AND TRUST

Proposal of Construction PKI on Overlay Network	254
<i>Yukio Okada, Hiroaki Hazeyama, and Youki Kadobayashi</i>	
Peer-to-Peer Economics for Post Catastrophic Recovery.....	258
<i>Yoshihiko Suko, Eiichi Morino, Susumu Takahashi, Takaaki Suzuki, Kenji Saito, and Jun Murai</i>	

SESSION 1: LARGE SCALE SENSOR NETWORK SYSTEM DEPLOYMENT

Smart Parking: an Application of Optical Wireless Sensor Network	262
<i>Jatuporn Chinrungrueng, Udomporn Sunantachaikul, and Satien Triamlumlerd</i>	
Live E! Project: Establishment of Infrastructure Sharing Environmental Information.....	266
<i>Satoshi Matsuura, Hiroki Ishizuka, Hideya Ochiai, Shinichi Doi, Shinichi Ishida, Masaya Nakayama, Hiroshi Esaki, and Hideki Sunahara</i>	
Seamless Integration of Sensor Network and Legacy Weather Databases by MetBroker	270
<i>Seishi Ninomiya, Takuji Kiura, Atsushi Yamakawa, Tokihiro Fukatsu, Kei Tanaka, Hongyan Meng, and Masayuki Hirafuji</i>	

SESSION 2: KEY TECHNOLOGIES IN SENSOR NETWORKING

Massive Data Input System for Geographical Origin Identification System of Vegetables Using Trace Element Compositions.....	274
<i>Nobuyoshi Sato, Minoru Uehara, Koichiro Shimomura, Hirobumi Yamamoto, and Kenichi Kamijo</i>	
Requirements for Protection Methods of Personal Information in Vehicle Probing System.....	278
<i>Michiko Izumi, Masaaki Sato, and Hideki Sunahara</i>	
Extending a Secure Autonomous Bootstrap Mechanism to Multicast Security	282
<i>Nobuo Okabe, Shoichi Sakane, Kazunori Miyazawa, and Ken'ichi Kamada</i>	

SESSION 3: DESIGN AND EVALUATION OF SENSOR NETWORKING

A Crop Field Remote Monitoring System Based on Web-Server-Embedded Technology and CDMA Service	286
<i>Dongxian He, Youlu Bai, Yingzhe Wang, and Hua Wu</i>	
Architecture of Scalable Embedded Device Management System with Configurable Plug-In Translator	290
<i>Hideya Ochiai and Hiroshi Esaki</i>	
Application of Content-Based Network for Sensor Data Distribution System.....	294
<i>Hideya Ochiai, Zhiyong Wang, Ryo Oguchi, Tetsuhiro Sugiyama, Yusuke Sakamoto, Shinichi Ishida, and Hiroshi Esaki</i>	

SESSION 4: PRACTICAL APPLICATION ON AGRICULTURAL FIELD

Field Server Projects	298
<i>Masayuki Hirafuji, Seishi Ninomiya, Takuji Kiura, Tokihiro Fukatsu, Haoming HU, Hideo Yoichi, Kei Tanaka, Koji Sugahara, Tomonari Watanabe, Takaharu Kameoka, Atsushi Hashimoto, Ryoei Ito, Reza Ehsani, and Hiroshi Shimamura</i>	
An Integrated Field Monitoring System for Sustainable and High-Quality Production of Agricultural Products Based on BIX Concept with Field Server	302
<i>Atsushi Hashimoto, Ryoei Ito, Kenichi Nakanishi, Takashi Mishima, Toyokazu Hirozumi, Takaharu Kameoka, Nobukazu Iguchi, Masayuki Hirafuji, and Seishi Ninomiya</i>	
Hierarchical Agent System for Web-Based Sensor Network	306
<i>Tokihiro Fukatsu, Takuji Kiura, Kei Tanaka, and Masayuki Hirafuji</i>	

SESSION 1: LARGE SCALE MEASUREMENT

Evaluation of P2P-based Internet Measurement System on Loss Tolerance to Measurement Results.....	310
<i>Atsushi Tagami, Teruyuki Hasegawa, Shigehiro Ano, and Toru Hasegawa</i>	
Scalable QoS Degradation Locating from End-to-End Quality of Flows on Various Routes	314
<i>Masayoshi Kobayashi and Tutomu Murase</i>	

SESSION 2: TRAFFIC ANALYSIS

Sketch Based Anomaly Detection, Identification and Performance Evaluation.....	318
<i>Patrice Abry, Guillaume Dewaele, and Pierre Borgnat</i>	
A Study on Detecting Network Anomalies Using Sampled Flow Statistics.....	322
<i>Ryoichi Kawahara, Tatsuya Mori, Noriaki Kamiyama, Shigeaki Harada, and Shoichiro Asano</i>	
A Proposal of Metrics for Botnet Detection Based on its Cooperative Behavior.....	326
<i>Mitsuaki Akiyama, Takanori Kawamoto, Masayoshi Shimamura, Teruaki Yokoyama, Youki Kadobayashi, and Suguru Yamaguchi</i>	
2-D Bitmap for Summarizing Inter-Host Communication Patterns	330
<i>Keisuke Ishibashi, Tatsuya Mori, Ryoichi Kawahara, Katsuyasu Toyama, Shunichi Osawa, and Shoichiro Asano</i>	

SESSION 3: PASSIVE MEASUREMENT

Requirements for a Standardized Flow Storage Solution	334
<i>Brian Trammell, Elisa Boschi, Lutz Mark, and Tanja Zseby</i>	
Inferring Original Traffic Pattern from Sampled Flow Statistics	338
<i>Tatsuya Mori, Ryoichi Kawahara, Noriaki Kamiyama, and Shigeaki Harada</i>	
Code Optimization for Packet Filters.....	342
<i>Yoshiyuki Yamashita and Masato Tsuru</i>	
Distributed Flow Monitoring Tool Using Network Processor.....	346
<i>Yoshinori Kitatsuiji, Satoshi Katsuno, Katsuyuki Yamazaki, Masato Tsuru, and Yuji Oie</i>	

SESSION 4: QOS MONITORING AND CONTROL

Diagnostic Method of Quality Degradation Segment from Sampled Packets.....	350
<i>Yasuhiro Yamasaki, Hideyuki Shimonishi, and Tutomu Murase</i>	
Method of Measuring VoIP Traffic Fluctuation with Selective sFlow	354
<i>Atsushi Kobayashi and Katsuyasu Toyama</i>	

Author Index