International Symposium on Applications and the Internet - SAINT 2007 Workshops

Message from SAINT 2007 Workshops Chairs.................................................xv
Ling Liu, Atsuhiro Goto

Workshop on Next Generation Service Platforms for Future Mobile Systems
(SPMS 2007)

Welcome note by WS Organizers..............................................................xvi
Stefan Arbanowski, Wolfgang Kellerer, Masayoshi Ohashi, and Mitsuru Uesugi

Session 1: Peer-to-Peer and Sensor Network Service Platforms
Session Chair: Stefan Arbanowski (Fraunhofer FOKUS, Germany)

Invited Talk: Zero-Programming Sensor Network Deployment……………..1
Karl Aberer, Manfred Hauswirth, and Ali Saheli

Towards a Mobile Peer-to-Peer Service Platform .........................................2
Wolfgang Kellerer, Zoran Despotovic, Maximilian Michel, Quirin Hofstäetter, and Stefan Zöels

Session 2: Context Awareness
Session Chair: Wolfgang Kellerer (DoCoMo Euro-Labs, Germany)

Privacy-Aware Context Discovery for Next Generation Mobile Services..................3
Cristian Hesselman, Henk Eertink, and Martin Wibbels

Managing and Delivering Context-Dependent User Preferences in Ubiquitous
Computing Environments .............................................................................4
Michael Sutterer, Olivier Coutand, Olaf Droegehorn, Klaus David, and Kees van der Sluijs

Session 3: Service Architectures and IMS evolution
Session Chair: Masayoshi Ohashi (KDDI, Japan)

Dynamic Community Entertainment Services Composition on Next Generation Mobile Network
IP Multimedia Subsystem ............................................................................5
Yasuhiro Araki, Akio Yamamoto, and Michael Sweeney

SPICE: Evolving IMS to Next Generation Service Platforms..........................6
Sasu Tarkoma, Christian Prehofer, Anna V. Zhidanova, Klaus Moessner, and Ernő Kovacs

Development and Publication of Generic Middleware Components for the Next Generation
Mobile Service Platform ...........................................................................7
Bharat Bhushan, Anthony Tarlano, Gerhard Fischer, and Jos Hendriks

Managing Variability of Mobile Value Added Service in Framework....................8
Xingping Huang, Peng Xu, and Fangchun Yang
Invited Talk: Solutions for a Service Architecture in Pervasive Environments Based on WWRF WG2 Requirements
Klaus David, Olaf Drögehorn, and Mika Klemettinen

Session 4: Next Generation Service Delivery
Session Chair: Klaus David (Univ. of Kassel, Germany)

Evolution of Next Generation Networks towards an Integrated Platform for IMS-Based IPTV Services
Oliver Friedrich, Adel Al-Hezmi, Stefan Arbanowski, and Thomas Magedanz

QoS Mapping and Adaptation in Next Generation Networks
E. Cerqueira, T. Sousa, A. Neto, L. Veloso, M. Curado, E. Monteiro, and P. Mendes

Reconfigurable Systems with a User-Centric Focus
Giovanni Bartolomeo, Stefano Salsano, and Nicola Blefari-Melazzi

Session 5: Mobile Applications
Session Chair: Mitsuru Uesugi (Panasonic, Japan)

Marauder’s Map - Bringing People Together
Raja Bose, Hen-I Yang, and Abdelsalam Helal

Privacy Management for Context Transponders
Michael Fahrmair, Wassiou Sitou, and Bernd Spanfelner

Context-Aware Query Refinement for Mobile Web Search
Shun Hattori, Taro Tezuka, and Katsumi Tanaka

MIDEA: Management of Disposable E-mail Addresses for Mobile Systems
Daisuke Ochi

Workshop on Networked RFID

Welcome note by WS Organizers
Osamu Nakamura, Hao Min, and Sang-Gug James Lee

Session 1: RFID empowered Business
Session Chair: Sang-Gug Lee (ICU)

Customer Loyalty Based Dynamic Pricing by Using RFID-enabled Floor Level Sales Information
Tatsuya Inaba

The Achievement of Hibiki Project - for the Spread Use of RFID
Atsushi Honzawa, Yuichi Kobayashi, Shinichirou Fukushima, and Takanori Yamazoe

Transportation Quality Monitor Using Sensor Active RFID
Kohei Mizuno and Masashi Shimizu
Session 2: Invited Talk
Session Chair: Osamu Nakamura (Keio University)

Invited Talk: Appliance Defined Ubiquitous Network.........................20
Haruhisa Ichikawa, Masashi Shimizu, and Kazunori Akabane

Session 3: RFID wireless system
Session Chair: Hao Min (Fudan University)

A Multi-Carrier UHF Passive RFID System ......................................................21
Hsin-Chin Liu, Yung-Ting Chen, and Wen-Shin Tzeng

Investigation of the Threshold of Second Carrier Sensing in RFID Deployment ........................................22
Kin Seong Leong, Mun Leng Ng, and Peter H. Cole

A System to Test the Performance of RFID-Tagged Objects ........................................23
Hugo Mallinson, Steve Hodges, and Alan Thorne

Multipath Identification Using Steepest Gradient Method for Dynamic Inventory in UHF RFID...........24
Jin Mitsugi and Yu Shibao

Workshop on Middleware Architecture in the Internet

Welcome note by WS Organizers.................................................................xviii
Yasuo Okabe, James Sankar, and Shinji Shimojo

Opening Address
Session Chair: Kenji Fujikawa (Root, Inc)

Middleware Architecture in the Internet: Introduction..........................25
Keith Hazelton

Session1: Authentication and Authorization
Session Chair: Kenji Fujikawa (Root, Inc)

Attribute Aggregation and Federated Identity..............................................26
Nate Klingenstein

Multiple-Tiered Security Hierarchy for Web Applications Using Central Authentication and Authorization Service..............................................................27
Hisashi Naito, Shoji Kajita, Yasushi Hirano, and Kenji Mase

A Privacy Oriented Extension of Attribute Exchange in Shibboleth.................................28
Shoichirou Fujiwara, Takaaki Komura, and Yasuo Okabe

Simple and Secure Authentication Escrow for Rights Trading Protocol..........................29
Keiichi Hirota and Noboru Sonehara
Session 2: Middleware for Network Management, Applications and Grid
Session Chair: Yasuo Okabe (Kyoto University)

A Policy-Based, Secure Access Control Mechanism for Network Roaming Infrastructures .......................30
Tetsuo Imai, Hideaki Goto, and Hideaki Sone

Application for a Simple Device Authentication Framework: Device Authentication Middleware using Novel Smart Card Software ...............................................................................................................31
Manabu Hirano, Takeshi Okuda, and Suguru Yamaguchi

Development of Management Interface to Configure Network Equipment................................................32
Tomoyuki Iijima, Kunihiko Toumura, Hiroyasu Kimura, Makoto Kitani, and Takahisa Miyamoto

A Generic API for Retrieving Human-Oriented Information from Social Network Services.........................33
Teruaki Yokoyama, Shigeru Kashihara, Takeshi Okuda, Youki Kadobayashi, and Suguru Yamaguchi

Peer-to-Peer Scheduling System with Scalable Information Sharing Protocol.............................................34
Norihiro Umeda, Hidemoto Nakada, and Satoshi Matsuoka

A Report of Campus-Wide IT Authentication Platform System Development in Osaka University.............35
Toyokazu Akiyama, Yuuichi Teranishi, Shingo Okamura, Eisaku Sakane, Go Hasegawa, Kenichi Baba, Hirota Nakano, and Shinji Shimojo

Data Management on Grid Filesystem for Data-Intensive Computing........................................................36
Hitoshi Sato and Satoshi Matsuoka

Workshop on Educational Challenges to Deploy the Internet

Welcome note by WS Organizers..........................................................xix
Hideki Sunahara, Kaori Maeda, Kenzi Watanabe, Keiko Okawa, and Yasuo Tsuchimoto

Session 1: Development of Tools for Distance Classroom
Session Chair: Kenzi Watanabe (Saga University)

Bandwidth Adjustable DVTS on the Heterogeneous Internet Environments for Distance Learning ...........37
Yasuo Tsuchimoto, Mohammad Abdul Awal, Poompat Saengudomlert, Teerapat Sanguankotchakorn, and Kanchana Kanchanasut

A Remote Hands-on Exercise Environment for an Asia-Wide Real-Time Workshop..............................38
Achmad Basuki, Achmad H. Thamrin, Keiko Okawa, and Jun Murai

An Active Viewing System to Utilize Streaming Video for Education ..................................................39
Masahiro Yachi and Jun Murai

Session 2: Collaborative Education over the Internet
Session Chair: Hideki Sunahara (Nara Institute of Science and Technology)
Smart Classrooms Bring Top-Quality Education around the Globe ............................................................40
Davar Pishva

An Asia-Wide Realtime Distributed Hands-On Workshop...........................................................................41
Shoko Mikawa, Patcharee Basu, Keiko Okawa, and Jun Murai

Cooperation Activity for Leaders of the Next Generation Internet...............................................................42
Tohru Kondo and Atsushi Hikita

Advanced Experiments to Educate Technical High School Students for Creation of Ubiquitous Networked Society.................................................................................................................43
Kazuhisa Taniguchi, Ryuji Kaneda, Mika Kunishige, Aki Kojiri, Kaori Maeda, and Reiji Aibara

Workshop on Network Mobility

Welcome note by WS Organizers..................................................................................................................xx
Ryuji Wakikawa, Thierry Ernst

Session 1: Experimentation and Testbed
Session Chair: Keiichi Shima (IIJ)

Invited Talk: Dependable Mobile Internet: Connecting Ambulance to the Internet
Hideki Sunahara

ANEMONE: A Pan-European Testbed to Validate IPv6 Mobility Technologies...........................................44
László Bokor, Nicolas Montavont, Paolo Di Francesco, Thierry Ernst, Tobias Hot, and Jaru Korva

Vehicle Communication Experiment Environment with MANET and NEMO .............................................45
Manabu Tsukada and Thierry Ernst

Deploying Reliable IPv6 Temporary Networks Thanks to NEMO Basic Support and Multiple Care-of Addresses Registration...................................................................................................................46
Romain Kuntz

Session 2: New Technology
Session Chair: Thomas Noel (University Louis Pasteur at Strasbourg)

 Advances in MANEMO: Definition of the Problem Domain and the Design of a NEMO-Centric Approach .............................................................................................................................47
B. McCarthy, C. Edwards, and M. Dunmore

A HIP Based Network Mobility Protocol.....................................................................................................48
Szabolcs Nováczki, László Bokor, and Sándor Imre

Multihoming in Nested Mobile Networks with Route Optimization..........................................................49
Angeline Deleplace, Thierry Ernst, and Thomas Noel

Invited Talk2: NEMO Based Communications for the Automotive Industry
Thierry Ernst
Workshop on Ubiquitous Networking and Enablers to Context-Aware Services

Welcome note by WS Organizers ................................................................. xxii
  Shinji Shimojo

Session 1: New Types of Services in Ubiquitous Network Era
  Michiharu Takemoto (NTT Network Service Systems Labs.)

RFID Supplement for Mobile-Based Life Log System .......................................................... 50
  Atsunori Minamikawa, Nobuhide Kotsuka, Masaru Honjo, Daisuke Morikawa, Satoshi
  Nishiyama, and Masayoshi Ohashi

Nazca: A Geographic Location Service .............................................................................. 51
  Mio Suzuki, Teruaki Yokoyama, Takuji limura, Shigeru Kashihara, Takeshi Okuda,
  and Suguru Yamaguchi

Mobile Media Content Sharing in UPnP-Based Home Network Environment ...................... 52
  Wei-Shun Liao, Yen-Ju Huang, and Chih-Lin Hu

An Extended and Operations for Retrieving a Flexible Information Unit from Tree Structured Data .... 53
  Taira Yoda, Hidenari Kiyomitsu, Kazuhiro Ohtsuki, and Jun-ya Morishita

Session 2: New Service Enablers for Ubiquitous Network
  Masayoshi Ohashi (KDDI)

A P2P-based Mechanism for Managing Location-Dependent Contents in Ubiquitous
  Environments.................................................................................................................. 54
  Tomoya Kawakami, Susumu Takeuchi, Yuuichi Teranishi, Kaname Harumoto, and Shojiro
  Nishio

Topology Re-formation Algorithms for Ubiquitous P2P Networks Based on Response Statistics .......... 55
  Hirokazu Nakano, Kaname Harumoto, and Shojiro Nishio

Instant Learning Sound Sensor for Ubiquitous Computing .................................................. 56
  Yuya Negishi and Nobuo Kawaguchi

A Novel Unambiguous Multipath Mitigation Scheme for BOC (kn; n) Tracking in GNSS .............. 57
  Sanghun Kim, Seungsoo Yoo, Seokho Yoon, and Sun Yong Kim
Workshop on Dependable and Sustainable Peer-to-Peer Systems (DAS-P2P 2007)

Welcome note by WS Organizers
Yusuke Doi, Youki Kadobayashi, and Kenji Saito

Session 1: PC Session
Session Chair: Kenji Saito (Keio University)

Invited Talk: Means for P2P Research
Kazuyuki Shudo

Local Production, Local Consumption Peer-to-Peer Architecture for a Dependable and Sustainable Social Infrastructure
Kenji Saito, Eiichi Morino, Yoshiihiko Suko, Takaaki Suzuki, and Jun Murai

Creating and Managing Service Level Agreement Networks
Omer Rana and Kenji Saito

Session 2: System and Measurement
Session Chair: Youki Kadobayashi (Nara Institute of Science and Technology)

CHOP6: A DHT Routing Mechanism Considering Proximity
Shouta Morimoto and Fumio Teraoka

N-TAP: A Platform of Large-scale Distributed Measurement for Overlay Network Applications
Kenji Masui and Youki Kadobayashi

Session 3: Geological P2P
Session Chair: Yusuke Doi (TOSHIBA Corporation)

Overlay Network Considering the Time and Location of Data Generation
Shinichi Doi, Satoshi Matsuura, Kazutoshi Fujikawa, and Hideki Sunahara

Content Cruising System under Dense Region of Mobile Nodes
Takaaki Ishida and Masayoshi Imaike

Gippy: Campus GIS Information System Supported by P2P
Fengyuan Xu, Zhiyi Fang, and Xiao Han

Session 4: Society and Trust
Session Chair: Omer Rana (Cardiff University)

Proposal of Construction PKI on Overlay Network
Yukio Okada, Hiroaki Hazeyama, and Youki Kadobayashi

Peer-to-Peer Economics for Post Catastrophic Recovery
Yoshihiko Suko, Eiichi Morino, Susumu Takahashi, Takaaki Suzuki, Kenji Saito, and Jun Murai
Session 5 (Panel) : Talking Circle: Towards Dependable and Sustainable P2P
Session Chair: Kenji Saito (Keio University)

Panelist:
Kazuyuki Shudo, Youki Kadobayashi, Yusuke Doi, Omer F. Rana, and Kenji Saito

Workshop on Practical Applications of Sensor Networking

Welcome note by WS Organizers........................................................................................................xxiii
Hideki Sunahara, Toshifumi Matsumoto, and Hiroshi Esaki

Session 1: Large Scale Sensor Network System Deployment
Session Chair: Hiroshi Esaki (The Univ. of Tokyo, Japan)

Smart Parking: an Application of Optical Wireless Sensor Network ...........................................................66
Jatuporn Chirungrueng, Udomporn Sunantachaikul, and Satien Triamlumlert

Live E! Project: Establishment of Infrastructure Sharing Environmental Information..................................67
Satoshi Matsuura, Hiroki Ishizuka, Hideya Ochiai, Shinichi Doi, Shinichi Ishida, Masaya Nakayama, Hiroshi Esaki, and Hideki Sunahara

Seamless Integration of Sensor Network and Legacy Weather Databases by MetBroker .......................68
Seishi Ninomiya, Takuji Kuira, Atsushi Yamakawa, Tokihiro Fukatsu, Kei Tanaka, Hongyan Meng, and Masayuki Hirafuji

Session 2: Key Technologies in Sensor Networking
Session Chair: Hideki Sunahara (Nara Institute of Science and Technology)

Massive Data Input System for Geographical Origin Identification System of Vegetables
Using Trace Element Compositions ............................................................................................................69
Nobuyoshi Sato, Minoru Uehara, Koichiro Shimomura, Hirobumi Yamamoto, and Kenichi Kamijo

Requirements for Protection Methods of Personal Information in Vehicle Probing System .................70
Michiko Izumi, Masaaki Sato, and Hideki Sunahara

Extending a Secure Autonomous Bootstrap Mechanism to Multicast Security........................................71
Nobuo Okabe, Shoichi Sakane, Kazunori Miyazawa, and Ken’ichi Kamada

Session 3: Design and Evaluatin of Sensor Networking
Session Chair: Hideki Sunahara (Nara Institute of Science and Technology)

A Crop Field Remote Monitoring System Based on Web-Server-Embedded Technology and CDMA Service ..............................................................72
Dongxian He, Youlu Bai, Yingzhe Wang, and Hua Wu
Session 4: Practical Application on Agricultural Field
Session Chair: Hiroshi Esaki (The Univ. of Tokyo, Japan)

Field Server Projects ...................................................................................................................................75
Masayuki Hirafuji, Seishi Ninomiya, Takuji Kiura, Tokihiro Fukatsu, Haoming HU, Hideo Yoichi,
Kei Tanaka, Koji Sugahara, Tomonari Watanabe, Takaharu Kameoka, Atsuchi Hashimoto,
Ryoei Ito, Reza Ehsani, and Hiroshi Shimamura

An Integrated Field Monitoring System for Sustainable and High-Quality Production of Agricultural
Products Based on BIX Concept with Field Server .....................................................................................76
Atsushi Hashimoto, Ryoei Ito, Kenichi Nakanishi, Takashi Mishima, Toyokazu Hirozumi,
Takaharu Kameoka, Nobukazu Iguchi, Masayuki Hirafuji, and Seishi Ninomiya

Hierarchical Agent System for Web-Based Sensor Network.................................................................77
Tokihiro Fukatsu, Takuji Kiura, Kei Tanaka, and Masayuki Hirafuji

Workshop on Internet Measurement Technology and its Applications to
Building Next Generation Internet

Welcome note by WS Organizers............................................................................................................xxiv
Kensuke Fukuda, Masato Tsuru

Session 1: Large Scale Measurement
Session Chair: Masato Tsuru

Evaluation of P2P-based Internet Measurement System on Loss Tolerance to Measurement
Results .........................................................................................................................................................78
Atsushi Tagami, Teruyuki Hasegawa, Shigehiro Ano, and Toru Hasegawa

Scalable QoS Degradation Locating from End-to-End Quality of Flows on Various Routes ..................79
Masayoshi Kobayashi and Tutomu Murase

Invited Talk: TBD
Sue Moon

Session 2: Traffic Analysis
Session Chair: Masayoshi Kobayashi
Invited Talk: Sketch Based Anomaly Detection, Identification and Performance Evaluation
Patrice Abry, Guillaume Dewaele, and Pierre Borgnat

A Study on Detecting Network Anomalies Using Sampled Flow Statistics
Ryoichi Kawahara, Tatsuya Mori, Noriaki Kamiyama, Shigeaki Harada, and Shoichiro Asano

A Proposal of Metrics for Botnet Detection Based on its Cooperative Behavior
Mitsuaki Akiyama, Takanori Kawamoto, Masayoshi Shimamura, Teruaki Yokoyama, Youki Kadobayashi, and Suguru Yamaguchi

2-D Bitmap for Summarizing Inter-Host Communication Patterns
Keisuke Ishibashi, Tatsuya Mori, Ryoichi Kawahara, Katsuyasu Toyama, Shunichi Osawa, and Shoichiro Asano

Session 3: Passive Measurement
Session Chair: Kenjiro Cho

Requirements for a Standardized Flow Storage Solution
Brian Trammell, Elisa Boschi, Lutz Mark, and Tanja Zseby

Inferring Original Traffic Pattern from Sampled Flow Statistics
Tatsuya Mori, Ryoichi Kawahara, Noriaki Kamiyama, and Shigeaki Harada

Code Optimization for Packet Filters
Yoshiyuki Yamashita and Masato Tsuru

Distributed Flow Monitoring Tool Using Network Processor
Yoshinori Kitatsuji, Satoshi Katsuno, Katsuyasu Yamazaki, Masato Tsuru, and Yuji Oie

Session 4: QoS Monitoring and Control
Session Chair: Kensuke Fukuda

Invited Talk: Path Selection Criteria for Peer-to-Peer Voice
Cheng-Ying Ou, Chia-Li Huang, Cheng-Chun Lou, Ming-Tsang Tsai, Kuan-Ta Chen, Polly Huang

Diagnostic Method of Quality Degradation Segment from Sampled Packets
Yasuhiro Yamasaki, Hideyuki Shimonishi, and Tutomu Murase

Method of Measuring VoIP Traffic Fluctuation with Selective sFlow
Atsushi Kobayashi and Katsuyasu Toyama

Author Index