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The 12th Asia-Pacific Network Operations and Management Symposium

APNOMS 2009

September 23-25, 2009
Phoenix Island, Jeju, Korea




Advance Program

Management Enabling the Future Internet for Changing Business and New Computing Services

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Welcome to APNOMS 2009

The 12th Asia-Pacific Network Operations and Management Symposium

23 - 25 September 2009 | Phoenix Island, Jeju, Korea

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Management Enabling the Future Internet for Changing Business and New Computing Services

APNOMS (Asia Pacific Network Operations and Management Symposium) has been a premier conference on network operations and management in the Asia Pacific region. APNOMS is sponsored by the KICS Committee on Korean Network Operations and Management (KNOM) and IEICE Technical Committee on Information Communication Management (ICM). It is supported by the IEEE Committee on Network Operations and Management (CNOM), IEEE Asia-Pacific Board (APB), IEEE Comsoc Japan Chapter and TeleManagement Forum (TMF).

APNOMS meets every year, typically during September and boasts a rich history of successes. It includes a full three-day program of keynotes, tutorials, technical sessions, panel discussions, poster sessions, and exhibits that focus on managing networks that span the computing and telecommunications areas.

APNOMS2009 is the 12th in the series, following the successful APNOMS'97 (Seoul), APNOMS'98 (Sendai), APNOMS'99 (Kyongju), APNOMS 2000 (Nara), APNOMS 2001 (Sydney), APNOMS 2002 (Jeju), APNOMS 2003 (Fukuoka), APNOMS 2005 (Okinawa), APNOMS 2006 (Busan), APNOMS 2007 (Sapporo), and APNOMS 2008 (Beijing).

APNOMS2009, which is held in Jeju Island, Korea, will provide you a good chance to exchange the new ideas and new technologies in network operations and managements that will increase the capability of the future Internet for changing business and new computing services.

The General Chair and Vice Co-Chairs would like to thank all those authors who contributed to the outstanding APNOMS2009 technical program, and thank the TPC and OC members and reviewers for their support throughout the preparation of various technical program, tutorials, panels and exhibitions. Also, we appreciate KICS KNOM, Korea, IEICE ICM, Japan, IEEE ComSoc CNOM, IEEE APB, TMF, IFIP WG6.6 for their support for APNOMS2009.

We hope you should also enjoy the world-famous futuristic holiday resort in Phoenix Island, Jeju, Korea.

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APNOMS 2009

Program at a Glance

Wednesday, 23 September 2009

	Island Ballroom 1	Island Ballroom 2	Island Ballroom 3	Hall
09:00 ~ 10:30	Tutorial 1	Tutorial 2		Exhibit Preparation
10:30 ~ 10:45	Coffee Break			
10:45 ~ 12:15	Tutorial 3	Tutorial 4		
12:15 ~ 13:30	Lunch			
13:30 ~ 13:45	Welcome Address: Young-Tak Kim Opening Remarks: Doug Zuckerman (IEEE ComSoc President), Byeong-Gi Lee (KCC)			
13:45 ~ 14:15	Keynote Speech 1			
14:15 ~ 14:30	Coffee Break		Short Paper Session 1	Exhibition
14:30 ~ 16:20	Technical Session 1	Technical Session 2		
16:20 ~ 16:40	Coffee Break			
16:40 ~ 18:30	Technical Session 3	Technical Session 4		
19:00 ~ 20:30	Welcome Reception			

Thursday, 24 September 2009

	Island Ballroom 1	Island Ballroom 2	Island Ballroom 3	Hall
09:00 ~ 10:00	Keynote Speech 2, Keynote Speech 3			Exhibition
10:00 ~ 10:30	Coffee Break			
10:30 ~ 12:20	Technical Session 5	Technical Session 6		
12:20 ~ 13:30	Lunch			
13:30 ~ 15:20	Technical Session 7	Special Session 1		
15:20 ~ 15:40	Coffee Break			
15:40 ~ 17:30	Technical Session 8	Innovation Session 1		
19:00 ~ 21:00	Symposium Banquet			

Friday, 25 September 2009

	Island Ballroom 1	Island Ballroom 2	Island Ballroom 3	Hall
09:00 ~ 10:00	Keynote Speech 4			Exhibition
10:00 ~ 10:30	Coffee Break			
10:30 ~ 12:20	Technical Session 9	Special Session 2		
12:20 ~ 13:30	Lunch			
13:30 ~ 15:20	Technical Session 10	Innovation Session 1	Short Paper Session 2	
15:20 ~ 15:40	Coffee Break			
15:40 ~ 17:30	Distinguished Experts Panel			
17:30 ~ 18:00	Closing Remark			

Keynotes

Keynote 1: Wed., Sept. 23, 2009, 13:45-14:15, Island Ballroom 1 & 2

The technological strategy of NTT West Corp.

George Kimura
(Technology Innovation Department & Environmental Management Promotion Office, NTT West Corporation, Japan)

Dr. Kimura is the Executive Director, Technology Innovation Department & Environmental Management Promotion Office. He was named to his current position in July 2008, and he has promoted the research and development of the next-generation IP network and enforced the Mid-/Long-term Vision in Environmental Policy. Dr. Kimura took a master's degree in 1982 and a doctor's degree of engineering in 1988. from Keio University.

Dr. Kimura pursues R&D relating to telecommunications infrastructure, in areas such as the technical advancement of regional IPv6 networks, and the construction of next generation networks (NGNs). He is also engaged in the new development and functional extension of IP services such as "Hikari Denwa" (IP Phone service on FTTx), video delivery and security. Especially, He is driving an effort to the development of new broadband services and the development of a green technology for the telecommunication infrastructure.

Keynote 2: Thu., Sept. 24, 2009, 09:00-09:30, Island Ballroom 1 & 2

The Evolution of Management Platforms for New Computing Services

Suncheol Gweon
(Senior Vice President and the Head of Network R&D Laboratory, KT, Korea)

Dr. Gweon is a Senior Vice President and the Head of Network R&D Laboratory in KT. He received his M.S and Ph.D in Electrical Engineering from Seoul National University, in 1985 and from Texas A&M University in 1990 respectively. He has been working for KT since 1991, and led the research on optical access network including a development of FLC(Fiber Loop Carrier) projects and broadband wireless project. He led the Network Engineering Division lately in charge of network planning and deployment. And he joined R&D Lab in early 2009. He has published around 100 papers and has around 80 patents mainly on optical communication area. He won the citation of the Minister of Information and Communication and the best KT R&D research project award, and was nominated in the 2005-2009 Editions of 「Marquis Who's Who in the world」. He is a member of IEEE and fellows of Korea Information and Communication Society, IEEK, and OSK.

Keynotes

Keynote 3: Thu., Sept. 24, 2009, 09:30-10:00, Island Ballroom 1 & 2

The Silent Revolution – CEIT Leads Industrial Changes

John C. C. Hsueh (Senior Vice President & CTO, Chunghwa Telecom, Taiwan)

Dr. Hsueh is currently Senior VP & CTO of Chunghwa Telecom Co., Ltd. His career spans over thirty years in technology innovation, operations management and product development in telecommunication sphere. With more than twenty years experience in various senior positions, Dr. Hsueh has provided valuable contributions to Taiwan telecommunication market as innovating telecom products and services for customers.

Prior to being Senior VP & CTO of Chunghwa Telecom, Dr. Hsueh worked as President of Northern Taiwan Business Group for six years and President of Telecommunication Laboratories for two years. He was the winner of "Outstanding Young Engineer 1984" Medal and got a couple of dozens of papers published on both domestic and overseas periodicals.

Dr. Hsueh holds a Doctor degree of Electronic Engineering & Computing Science, in Northwestern University, USA.

Keynote 4: Fri., Sept. 25, 2009, 09:00-09:30, Island Ballroom 1 & 2

USN/RFID R&D and Innovation for u-society in Korea

Jong-Suk Chae (Director of RFID/USN Research Division, ETRI, Korea)

Dr. Chae is a director of RFID/USN Research Division in ETRI and a chairman of TC-3, the radio communication technology committee of TTA, Korea. He has performed an major role in IT839 Strategy of MIC as a vice president of Telematics &USN division in ETRI .
In 1985, he joined ETRI as a senior researcher and had taken the leadership in developing radio analysis system, DAMA-SCPC satellite communications earth station, digital satellite broadcasting, and WCDMA system as vice president. He was awarded national commendation for contribution to the development of the digital satellite broadcasting system. Before then, he worked at ADD in charge of developing radar and antenna and succeeded in designing ship radar and proximity fuses. He has jointly developed a DAMA-SCPC earth station with Alenia Spazio in Italy for 2 years and served an inviting professor at Yonsei University in 2003.
Dr. Chae earned Ph. D in Engineering from Yonsei University. He has about 100 publications in refereed journals as an inventor on 30 patents. He is the steering Committee chairman of the USN forum and RFID/USN Korea since 2005. He is a member and a board director of various academic social activities such as the Electromagnetic Waves, the Electronic Engineering and Communications.

Distinguished Experts Panel

DEP Session: Fri., Sept. 25, 2009, 15:40 - 17:30, Island Ballroom 1 & 2

Panel Chair	Tae-Sang Choi (ETRI, Korea)

Taesang Choi is a Principal Engineering Staff in ETRI, having joined the institute in 1996 after research and development careers on network and service management of telecommunications during his Ph.D studies at the University of Missouri at Kansas City. He has successfully managed a number of projects in the area of telecommunications, especially in Internet traffic engineering, measurement and analysis, and QoS management.
He has had substantial experience as an educator, workshop facilitator and public speaker. He has spoken at various regional and international conferences and workshops (NOMS, APNOMS, IM, etc.) as a technical session speaker and tutorial speaker. He has worked as an active organizing committee member in a number of conferences, workshops and symposiums. He has also reviewed and written many technical papers in a number of conferences and journals. He has also been actively contributed to various standardization organizations such as DAVIC (Digital Audio Visual Council), ITU-T and IETF in the area of real-time high quality and high speed audio visual multimedia services, Internet traffic engineering, Internet traffic measurement and analysis, and Future Internet since 1993. He is currently serving as a rapporteur of ITU-T SG13 Q.4.

Panelists	Shinichiro Chaki (NTT, Japan)

Shinichiro Chaki is a group leader of service edge systemu group in NTT Network Service Systems Laboratories. He received the B.E. degree from Sophia University in 1986 and the M.E. degree from Waseda University in 1988. He joined NTT Switching System Laboratories in 1988 where he worked on the development of ATM traffic control scheme and first commercial ATM switching system for Frame Relay service. From 1998, he worked on the standardization of VB5 interface in ITU-T and the development of B-PON system for ATM Mega-data link service in NTT Access Network Systems Laboratories. In 2002, he joined NTT Service Integration Laboratories where he engaged in basic network design for FLET' S Hikari Premium service based on IPv6 technology. In 2004, he engaged in R&D on added value function for transport network. He also designed a logical IP network for the NGN. Now he has engaged in R&D on basic technologies and architecture for transport system forcus on future networks. He is a member of IEEE and IEICE.

Panelists	Takashi Egawa (NEC Corporation, Japan)

Takashi Egawa received B.Sc and M.Sc from the University of Tokyo in 1989 and 1991, respectively. He joined NEC Corporation in 1991 and worked in the research of networks such as reliability or active networks. From 1999 to 2000 he was a visiting researcher in Swiss Federal Institute of Technology Zurich, and from 2003 to 2007 he worked as an editor of IEICE transactions on communication. He is now working in the standardization of Next Generation Networks and Future Networks in ITU-T as a Rapporteur of Question 21 (future networks) of Study Group 13, and as an editor of Y.2701 (NGN security) and Y.2720 (NGN identity management framework).

Distinguished Experts Panel

Panelists — Doug Zuckerman (Telcordia, USA)

Douglas N. Zuckerman received his B.S., M.S. and Eng.Sc.D degrees in Electrical Engineering from Columbia University in 1969, 1971 and 1976, and is an IEEE Fellow. His over 40 years of experience, mainly at Bell Labs and Telcordia Technologies, span the operations, management and engineering of emerging networks and services. He is currently the IEEE Communications Society's President. His technical career included long-haul millimeter waveguide studies (before fiber), satellite systems engineering, maintenance engineering for the world's first digital transmission networks, business services operations planning, and most recently IP-centric optical network interoperability. He was an early contributor to TMN standards and currently chairs the Optical Internetworking Forum's OAM&P Working Group.

For over 24 years, Doug's leadership across ComSoc's technical committees, conferences, publications, chapters and Society governance has maintained focus on member interests worldwide, especially making relevant technical information widely and quickly available on line and in conferences, and encouraging more member interaction in the technical committees. He co-founded technical committees on Network Operations & Management and Enterprise Networking, as well as the IEEE Network Operations & Management Symposium (NOMS). His sustained contributions were recognized through the Salah Aidarous Memorial Award, the Society's Donald McLellan Meritorious Service Award, its Conference Achievement Award and the IEEE Third Millennium Medal.

Panelists — Sue Moon (KAIST, Korea)

Sue Moon received her B.S. and M.S. from Seoul National University, Seoul, Korea, in 1988 and 1990, respectively, all in computer engineering. She received a Ph.D. degree in computer science from the University of Massachusetts at Amherst in 2000. From 1999 to 2003, she worked in the IPMON project at Sprint ATL in Burlingame, California. In August of 2003, she joined KAIST and now teaches in Daejeon, Korea. Her research interests are: network performance measurement and monitoring of diverse network types, online social networks, and future Internet design. She served as TPC co-chairs for ACM Multimedia 2004 and ACM SIGCOMM MobiArch Workshop 2007, as general chair for PAM 2009 and in the TPC for INFOCOM 2003-2006, WWW 2007-2009, and ACM SIGCOMM IMC 2004, 2007, and 2009, just to list a few. She is currently serving as a guest editor for IEEE Network special issue on online social networks and Journal for Network and Systems Management special issue on New Advances on Measurement Based Network Management.

Panelists — Myung-Ki Shin (ETRI, Korea)

Myung-Ki Shin is currently a principal researcher at Standards Research Center in Electronics and Telecommunications Research Institute (ETRI), Korea. He is a technical lead of the Future Internet related project in ETRI. He has been working on IP protocols since 1994. His research interests IPv6 Mobility, Multicast and Future Internet technologies. He was also a guest researcher at National Institute of Standards and Technology (NIST), USA in 2004-2005. He is actively involved in Internet Engineering Task Force (IETF) and GENI (Global Environment for Network Innovations). He is an author of several IETF RFCs (RFC 3338, RFC 4038, RFC 4489, etc.) and one of co-PIs of GENI Spiral-2 projects. He is also a co-rapporteur of Q.21 (future networks) in ITU-T SG13. He received a Ph.D. degree in Computer Engineering by research on IPv6 multicast and mobility.

Special Sessions

Session 1: Thur., Sept. 24, 2009, 13:30~15:20, Island Ballroom 2

Future Network Architecture and Management Issues

Session Chair: Byungdeok Chung, KT Network R&D Laboratory, Korea

NICT New-Generation Network Vision and Five Network Targets

Nozomu Nishinaga (NICT, Japan)

Nozomu Nishinaga received his B.S. and M.S. in Electronics Engineering and his Ph.D. in Information Engineering from Nagoya University, Japan in 1994, 1996, and 1998, respectively. From November 1998 to March 1999, he was a research assistant at the Information Media Education Center, Nagoya University. From 1999 to the present, he has been a researcher of the National Institute of Information and Communications Technology (formerly, Communications Research Laboratory). His current research interests include broadband satellite networking and its applications.

Business Oriented Network Architecture (BONA) Framework for FutureNetwork

Sung Won Lee (Kyung Hee Univ., Korea)

Sungwon Lee received the Ph.D degree from Kyung Hee University, Korea. He is a professor of the Computer Engineering Departments at Kyung Hee University, Korea. Dr. Lee was a senior engineer of Telecommunications and Networks Division at Samsung Electronics Inc. from 1999 to 2008. He is an editor of the Journal of Korean Institute of Information Scientists and Engineers: Computing Practices and Letters.

Emerging Testbeds for NwGN through Virtualization Technologies

Akihiro Nakao (Univ. of Tokyo, Japan)

Akihiro Nakao received B.S. (1991) in Physics, M.E. (1994) in Information Engineering from University of Tokyo. He was at IBM Yamato Laboratory / an Tokyo Research Laboratory / at IBM Texas Austin from 1994 till 2005. He received M.S. (2001) and Ph.D. (2005) in Computer Science from Princeton University. He has been teaching as an Associate Professor in Applied Computer Science, at Interfaculty Initiative in Information Studies, Graduate School of Interdisciplinary Information Studies, the University of Tokyo since 2005. He has also been an expert visiting scholar / a project leader at National Institute of Information and Communications Technology (NICT) since 2007.

Special Sessions

Service oriented infrastructure for next generation IPTV

Tai-Won Um (ETRI, Korea)

Tai-Won Um is a senior member of engineering staff in IPTV Technology Research Department at Electronics and Telecommunications Research Institute. He received the BS degree in electronic and electrical engineering from Hong Ik University, Seoul, Korea, in 1999, and the MS and PhD degrees from the School of Engineering, Information and Communications University, Daejeon, Korea, in 2000 and 2006, respectively. Currently, his research focuses on next-generation IPTV technologies, MPLS-based mobility in NGN, and optical burst switching networks.

Session 2: Fri., Sept. 25, 2009, 10:30~12:20, Island Ballroom 2

Management of Future Network and Services

Session Chair: Kazunori Ueda, Kochi University of Technology

Radio Resource Management for Evolving Wireless Access in Heterogeneous Environment

Shinichi Nomoto (KDDI R&D Laboratories, Inc., Japan)

Dr. NOMOTO received B.E., M.E., and Ph.D degrees, all in electrical engineering, from Waseda University, Tokyo, Japan, in 1980, 1982, and 1993, respectively. He joined Kokusai Denshin Denwa Co., Ltd. (now KDDI Corp.), in 1982. Since 1983, he has been engaged in research and development of radio transmission systems. As a professional assignee at Inmarsat HQ's from 1992 to 1995, he has contributed to the "Inmarsat-P (ICO)" project, which includes development of a global personal communications system using a number of non-geostationary satellites. His current research interests include antennas and propagation, broadband wireless access systems, cognitive radio, cooperative radio and QoE management in communication networks. He received the Shinohara Memorial Young Researchers' Award from IEICE in 1988, the Piero Fanti International Prize from INTELSAT/Telespazio in 1988, and the Radio Distinguished Award from RCR (now ARIB) in 1991. In 2004, two of his published papers received the Best Paper Awards from IEICE, one of which was the recipient of the 10th Inose Award (the very best paper of the year) too. He is an Executive Director of KDDI R&D Laboratories, Inc., a R&D fellow of KDDI, a senior member of IEEE, and a vice chair of Radio Interface Technology Study Group of Advanced Wireless Communications Study Committee (ADWICS), ARIB.

Special Sessions

Leveraging NGOSS Frameworks for Next Generation BSS/OSS Transformation

Rong-Syh Lin (Chunghwa Telecommunication Labs., Taiwan)

Rong-Syh Lin is the head of Network Operations Technology Department of Telecommunication Laboratories, Chunghwa Telecom Co., Ltd. He received the Ph.D. and master degree of Computer Science from Chiao Tung University in 1998 and Tsing Hua University in 1989, respectively. In 1989, he joined Telecommunication Labs. as a Researcher. He has focused upon efficient service/network operations and QoS/QoE innovation, and leaded the development of several Integrated Management Systems for broadband services in CHT, such as xDSL/FTTx, VPN, IPTV, VoIP, and new ICT services. Since 2006, he was appointed as the program manager of CHT/TL NGOSS Evolution, which successfully transformed and consolidated dozens of BSS/OSSs based on the TMF NGOSS frameworks. His current interest is on BSS/OSS flexibility and agility to accelerate new service growth.

Content Delivery Technology for IPTV

Young-il Seo (KT Network R&D Laboratory, Korea)

Yeong-il Seo has more than 13 year extensive experiences as IP Network Engineer at KT Network R&D Laboratory. As key accomplishment, he successfully deployed KT NGN, and he implemented KT TPS including IPTV over KT NGN. He is responsible for design, deployment, and engineering of KT's IP network. He was the editor of ITU-T IPTV FG and now he has an activity in IETF P2P related WG. He is focusing on Next generation Content delivery technology, P2P issue and IETF Application-Layer Traffic Optimization technology.

Issues on QoS-enabled IP network planning

Yong Min Choi (KT Network R&D Laboratory, Korea)

Short biography (200 – 250 words) Yongmin Choi is a senior researcher at Network R&D Laboratory, KT Corporation (Daejeon, Korea), where he works on IP traffic engineering and network optimization. He received his B.S. and M.S. degrees in electronics engineering from the Seoul National University (Seoul, Korea). He is pursuing Ph.D. degree at the University of Southern California (Los Angeles, USA). Since 1993 he has worked in areas of standardization of multimedia services, development of convergence services, and consulting of strategic planning. He also worked on statistical analysis and modeling of Internet traffic and satellite Internet at Hughes Ratheon Laboratories LLC (Malibu, USA) in 2000. His current research interests include statistical analysis and modeling of multi-service IP network, traffic anomaly detection and control, and future Internet. He is a member of Eta Kappa Nu (the national honor society for electrical engineering in USA).

Tutorials

Tutorial 1: Wed. Sept. 23, 2009, 9:00~10:30, Island Ballroom 1

A New Convergence Trend: Mobile IPTV Expanding the Value of IPTV

Soohong Daniel Park (Samsung Electronics, Korea)

IPTV is defined as multimedia services, such as TV, video, audio, text, graphics, and data, delivered over IP-based networks managed to support quality of service (QoS), quality of experience, security, interactivity, and reliability. Mobile IPTV extends those services to mobile networks. This tutorial discuss Mobile IPTV standardization's status, related approaches in the field, and technical challenges to enhancing Mobile IPTV services. Given the critical role of QoS in the technology's widespread adoption, this tutorial also propose an efficient signaling scheme to support QoS for seamless Mobile IPTV services. Additionally, this tutorial illustrates on the current W3C activity in terms of Video in the Web.

LEVEL: Intermediate

Tutorial 2: Wed. Sept. 23, 2009, 9:00~10:30, Island Ballroom 2

Points to consider in IPv6 network construction and operation

Tomohiro Fujisaki (NTT, Japan), Yoshinobu Matsuzaki (IIJ, Japan)

This tutorial introduces points to keep in mind during constructing and operatiing IPv6 networks mainly from the viewpoint of ISP and enterprise network operators. IPv6 has many features in his specification that IPv4 does not have, such as address autoconfiguration, extension headers, Operators have to take care of these new features.

LEVEL: Intermediate

Tutorials

Tutorial 3: Wed. Sept. 23, 2009, 10:45~12:15, Island Ballroom 1
Management of the Future Internet Using Autonomic Principles

John C. Strassner (POSTECH, Korea)

This tutorial first derives management requirements for the Future Internet, Next, a proposed management architecture, based on autonomic principles, is then described that emphasizes backwards compatibility with current and next generation Internet applications and services while providing new features, such as context-aware policy-based governance. The tutorial concludes with example applications of this architecture from European as well as Korean projects.

LEVEL: Intermediate

Tutorial 4: Wed. Sept. 23, 2009, 10:45~12:15, Island Ballroom 2
Management of the Outer Edge: Opportunities for Operators to Provide new Services in Future Smart Homes – U-Health for Elderly Use Case

Nazim Agoulmine (University of Evry Val d'Essonne, France)

New network types, smart communication devices and sensors are constantly appearing in the home environment, thus allowing for the emergence of new types of ubiquitous services. An important subset of this evolving network is the emergence of what is called the "outer edge". While this evolution creates new opportunities for business, the home network is not currently controlled by the operator, and as such, they couldn't really benefit from their development. The outer edge is physically connected to and exchanges data with access networks and service interactions could occur between service entities in the outer edge, network operator service entities, and external service entities for a better provision of smart services. How operators can take benefit of this opportunity to develop their business outside the pipes and how to blend these heterogeneous and complex home networks into operators' network and service management systems in a seamless manner are among the questions that will be addressed in this tutorial? The structure of this tutorial is as follows: I will first present the challenges and opportunities around ubiquitous services in smart homes. Then, I will introduce the requirements in term of autonomic management of services as well as the synergy between the outer edge network management and the operator network management. Next, I will highlight how the end-to-end service provisioning chain and management can be performed and what are the challenges behind this management. An example of such an initiative within the European Research Project Magneto is therefore presented. In addition, in the last part of the tutorial, I will present a particular a case study of such a system to provide U-Health services to elderly in their own home to support their independence and high quality of care. This U-Health system is discussed within the framework of the WCU project "Convergence in IT" at POSTECH, Pohang, Korea.

LEVEL: Intermediate

Technical Sessions

T1 Wed, Sept. 23, 2009, 14:30~16:20(Island Ballroom 1)
Network Monitoring and Measurement
Chair: Makoto Takano (NTT-West, Japan)

1-1 Traffic Trace Engineering
Dung Pham Van, Marat Zhanikeev, and Yoshiaki Tanaka (Waseda University, Japan)

1-2 Understanding web hosting utility of Chinese ISPs
Zhang Guanqun, Wang Hui, and Yang Jiahai (Tsinghua University/TNList, China)

1-3 Internet Application Traffic Classification using Fixed IP-port
Sung-Ho Yoon, Jin-Wan Park, Jun-Sang Park, Young-Seok Oh, and Myung-Sup Kim (Korea University, Korea)

1-4 Accuracy Improvement of CoMPACT Monitor by Using New Probing Method
Kohei Watabe, Yudai Honma, and Masaki Aida (Tokyo Metropolitan University, Japan)

T2 Wed, Sept. 23, 2009, 14:30~16:20(Island Ballroom 2)
Configuration and Fault Management
Chair: Yen-Cheng Chen (National Chi Nan University, Taiwan)

2-1 Proposal and Evaluation of Data Reduction Method for Tracing based Pre-patch Impact Analysis
Kenji Hori and Kiyohito Yoshihara (KDDI R&D Labs, Japan)

2-2 High-speed Traceroute method for large scale network
Naoki Tateishi, Saburo Seto, and Hikaru Seshake (NTT, Japan)

2-3 Fault diagnosis for High-level applications based on Dynamic Bayesian Network
Zhiqing Li, Lu Cheng, Xuesong Qiu, and Li Wu (BUPT, China)

2-4 Novel optical-fiber network management system in central office using RFID and LED navigation technologies
Masaki Waki, Shigenori Uruno, Yoshitaka Enomoto, and Yuji Azuma (NTT, Japan)

T3 Wed, Sept. 23, 2009, 16:40~18:30(Island Ballroom 1)
Management of IP-Based Networks
Chair: Jen-Yi Pan (National Chung Cheng University, Taiwan)

3-1 Mobility Management Using Virtual Multi-Parent Tree in Infrastructure Incorporated Mobile Ad Hoc Networks
Trung-Dinh Han and Hoon Oh (University of Ulsan, Korea)

3-2 Lightweight Traffic Monitoring and Analysis Using Video Compression Techniques
Marat Zhanikeev and Yoshiaki Tanaka (Waseda University, Japan)

3-3 NETCONF-based Network Management System Collaborating with Aggregated Flow Mining
Tomoyuki Iijima, Yusuke Shomura, Yoshinori Watanabe, and Naoya Ikeda (Alaxala Networks, Japan)

3-4 Policy-based Traffic Monitoring and High Precision Control for Converged Multi-gigabit IP Networks
Taesang Choi, Sangsik Yoon, Sangwan Kim, Dongwon Kang and Joonkyung Lee (ETRI, Korea)

T4 Wed, Sept. 23, 2009, 16:40~18:30(Island Ballroom 2)
Autonomous and Distribted Control
Chair: Tunemasa Hayashi (Cloud Scope, Japan)

4-1 The Design of an Autonomic Communication Element to Manage Future Internet Services
John Strassner, Sung-Su Kim, and James Won-Ki Hong (POSTECH, Korea)

4-2 Adaptive Grid Resource Selection based on Job History Analysis using Plackett-Burman Designs
Cinyoung Hur and Yoon-Hee Kim (Sookmyung Women's University, Korea)

4-3 Automated and Distributed Network Service Monitoring
Giovan Germoglio, Bruno Dias, and Pedro Sousa (Universidade do Minho, Portugal)

4-4 Network Partitioning and Self-Sizing Methods for QoS Management with Autonomic Characteristics
Romildo Martins da Silva Bezerra (IFBA, Brazil) and Joberto Sergio Barbosa Martins (UNIFACS, Brazil)

T5 Thur, Sept. 24, 2009, 10:30~12:20(Island Ballroom 1)
Sensor Network and P2P Management
Chair: Kyoko Yamori (Asahi University, Japan)

5-1 A Scheme for Supporting Optimal Path in 6LoWPAN based MANEMO Networks
Jin Ho Kim and Choong Seon Hong (Kyung Hee University, Korea)

5-2 Bypassing Routing Holes in WSNs with a Predictive Geographic Greedy Forwarding
Minh Thiep Ha, Priyadharshini Sakthivel, and Hyunseung Choo (Sungkyunkwan University, Korea)

5-3 Analysis of Time-Pattern of Query Trends in P2P File Sharing Systems
Masato Doi, Shingo Ata, and Ikuo Oka (Osaka City University, Japan)

5-4 An Implementation of P2P System for Sharing Sensory Information
Seung-Joon Seok, Nam-Gon Kim (KyungNam University, Korea), Deokjai Choi (Chonnam Nat'l Univ, Korea), and Wang-Cheol Song (Jeju Nat'l Univ)

T6 Thur, Sept. 24, 2009, 10:30~12:20(Island Ballroom 2)
Converged Networks and Traffic Engineering
Chair: Myung-Sup Kim (Korea University, Korea)

6-1 The Proposal of Service Delivery Platform Built on Distributed Data Driven Architecture
Jianfeng Zhang, Yuki Kishikawa, Kentaro Fujii, Yousuke Kouno, Takayuki Nakamura, and Kazuhide Takahashi (NTT Docomo, Japan)

Technical Sessions

6-2 LCGT: A Low-cost Continuous Ground-Truth Generation Method for Traffic classification
Xu Tian, Xiaohong Huang, and Qiong Sun (Beijing University of Posts and Telecommunications, China)

6-3 Adaptive Coverage Adjustment for Femtocell Management in a Residential Scenario
Sam Yeoul Choi, Tae-Jin Lee, Min Young Chung, and Hyunseung Choo (Sungkyunkwan University, Korea)

6-4 New Modeling for Traffic Engineering in FMC Environment
Takashi Satake (NTT, Japan)

T7 Thur, Sept. 24, 2009, 13:30~15:20(Island Ballroom 1)
SLA and QoS Management
Chair: Daniel W. Hong (KT, Korea)

7-1 Experience in Developing a Prototype for WiBro Service Quality Management System
Dae-Woo Kim, Hyun-Min Lim, Jae-Hyoung Yoo (KT, Korea), and Sang-Ha Kim (ChungNam National University, Korea)

7-2 BDIM-Based Optimal Design of Videoconferencing Service Infrastructure in Multi-SLA Environments
Hao Shi, Zhiqiang Zhan, and Dan Wang (BUPT, China)

7-3 Contention Window Size Control for QoS Support in Multi-Hop Wireless Ad Hoc Networks
Pham Thanh Giang, and Kenji Nakagawa (Nagaoka University of Technology, Japan)

7-4 Tackling the Delay-Cost and Time-Cost Trade-Offs in Computation of Node-Protected Multicast Tree Pairs
Visa Holopainen and Raimo Kantola (TKK Helsinki University of Technology, Finland)

T8 Thur, Sept. 24, 2009, 15:40~17:30(Island Ballroom 1)
Active and Security Management
Chair: Kazuhiko Kinoshita (Osaka University, Japan)

8-1 An Algorithm for the Measure Station Selection and Measure Assignment in the Active IP Network Measurement
Yongguo Zeng, Lu Cheng, Ting Huang, and Zhiqing Li (BUPT, China)

8-2 Volume Traffic Anomaly Detection using Hierarchical Clustering
Choonho Son, Seok-Hyung Cho, and Jae-Hyoung Yoo (KT, Korea)

8-3 Memory-Efficient IP Filtering for Countering DDoS Attacks
Seung Yeob Nam (Yeungnam University, Korea) and Taijin Lee (KISA, Korea)

8-4 Framework Design and Performance Analysis on Pairwise Key Establishment
Younho Lee (Yeungnam University, Korea) and Yongsu Park (Hanyang University, Korea)

T9 Fri, Sept. 25, 2009, 10:30~12:20(Island Ballroom 1)
Wireless and Mobile Network Management
Chair: Chankyu Hwang (KT, Korea)

9-1 MIH-assisted PFMIPv6 Predictive Handover with Selective Channel Scanning, Fast Re-association and Efficient Tunneling Management
Igor Kim, Young Chul Jung, and Young-Tak Kim (Yeungnam University, Korea)

9-2 Forecasting WiMAX System Earnings: A Case Study on Mass Rapid Transit System
Cheng Hsuan Cho, and Jen-yi Pan (National Chung Cheng University, Taiwan)

9-3 Triangular Tiling-Based Efficient Flooding Scheme in Wireless Ad Hoc Networks
In Hur (Sungkyunkwan University, Korea), Trong Duc Le (Samsung Electronics, Korea), Minho Jo (Korea University, Korea), and Hyunseung Choo (Sungkyunkwan University, Korea)

9-4 Modeling Directional Communication in IEEE 802.15.3c WPAN based on Hybrid Multiple Access of CSMA/CA and TDMA
Chang-Woo Pyo (NICT, Japan)

9-5 Management of UpStreaming Profiles for WiMAX
Sheng-Tzong Cheng (National Cheng Kung University, Taiwan) and Red-tom Lin (Institute for Information Industry, Taiwan)

T10 Fri, Sept. 25, 2009, 13:30~15:20(Island Ballroom 1)
Security Management
Chair: Takashi Egawa (NEC, Japan)

10-1 Architecture of Context-Aware Workflow Authorization Management Systems for Workflow-based Systems
Seon-Ho Park, Young-Ju Han, Jung-Ho Eom, and Tai-Myoung Chung (Sungkyunkwan University, Korea)

10-2 Baseline Traffic Modeling for Anomalous Traffic Detection on Network Transit Points
Yoohee Cho (KT, Korea), Koohong Kang (Seowon University, Korea),
Ikkyun Kim (ETRI, Korea), and Kitae Jeong (KT, Korea)

10-3 IP Prefix Hijacking Detection Using Idle Scan
Seong-Cheol Hong (POSTECH, Korea), Hong-Taek Ju (Keimyung Unviersity, Korea), and James W. Hong (POSTECH, Korea)

10-4 A PKI based Mesh Router Authentication Scheme to Protect from Malicious Node in Wireless Mesh
Kwang Hyun Lee and Choong Seon Hong (Kyung Hee University, Korea)

Short Paper Sessions

S1 Wed, Sept 23, 2009, 14:15~16:40
Poster Presentation ((Island Ballroom 3)
Chair: Takumi Miyoshi
(Shibaura Institute of Technology, Japan)

S1-1 A Personalization Service in the IMS Networks
Youn-Gyou Kook and Jae-Oh Lee (Korea University of Technology and Education, Korea)

S1-2 Dimensioning of IPTV VoD Service in Heterogeneous Broadband Access Networks
Suman Pandey (POSTECH, Korea), Young J. Won (POSTECH, Korea), Hong-Taek Ju (Keimyung Univ, Korea), and James W. Hong (POSTECH, Korea)

S1-3 Remote Configuration Mechanism for IP based Ubiquitous Sensor Networks
Kang-Myo Kim, Hamid Mukhtar, and Ki-Hyung Kim (Ajou University, Korea)

S1-4 Asymmetric DHT based on performance of peers
Kazunori Ueda (Kochi University of Technology, Japan) and Kazuhisa Kawada (NTT Software, Japan)

S1-5 Load Balance Based on Path Energy and Self-Maintenance Routing Protocol in Wireless Sensor Networks
Yao-Pin Tsai (Yuan Ze University /Technology and Science Institute of Northern Taiwan, Taiwan), Ru-Sheng Liu, and Jun-Ting Luo (Yuan Ze University, Taiwan)

S1-6 Performance Evaluation of VoIP QoE Monitoring Using RTCP XR
Masataka Masuda, Kodai Yamamoto, Souhei Majima, Takanori Hayashi (NTT, Japan), and Konosuke Kawashima (Tokyo University of Agriculture and Technology, Japan)

S1-7 Research on Service Abstract and Integration Method in Heterogeneous Network Platform
Fei Ma (Beijing University of Posts and Telecommunications/Liaoning Technical University, China), Wen-an Zhou, Jun-de Song (Beijing University of Posts and Telecommunications, China), and Guang-xian Xu (Liaoning Technical University, China)

S1-8 Security and Reliability Design of Olympic Games N etwork
Li Zimu, Li Xing, Wu Jianping (Tsinghua University, China), and WANG Haibin (The Beijing Organizing Committee for the Games of the XXIX Olympiad, China)

S1-9 An Implementation of the SDP Using Common Service Enablers
Jae-Hyoung Cho and Jae-Oh Lee (Korea University of Technology and Education, Korea)

S1-10 Decreasing Access Control List processed in Hardware
Takumichi Ishikawa and Noriaki Yoshiura (Saitama University, Japan)

S1-11 A Novel DNS Accelerator Design and Implementation
Zhang Zhili, Zhang Ling , Xie Dang-en, Xu Hongchao, and Hu Haina (Xuchang University, China)

S1-12 Service Fault Localization using Functional Events Separation and Modeling of Service Resources
Jinsik Kim, Young-Moon Yang, Sookji Park, Sungwoo Lee, and Byungdeok Chung (KT, Korea)

S1-13 Towards Fault Isolation in WDM Mesh Networks
Chi-Shih Chao and Szu-Pei Lu (Feng Chia University, Taiwan)

S1-14 Factors Influencing Adoption for Activating Mobile VoIP
MoonKoo Kim, JongHyun Park, and JongHyung Paik (ETRI, Korea)

S1-15 A Study on SDH/OTN Integrated Network Management Method
Kei Karato, Shun Yamamoto, Tomoyoshi Kataoka, Yukihide Yana, and Yuzo Fujita (NTT, Japan)

S1-16 Group P2P Network Organization in Mobile Ad-hoc Network
Rim Haw, Choong Seon Hong, and Dae sun Kim (Kyung Hee University, Korea)

S2 Fri, Sept. 25, 2009, 13:30~15:20
Poster Presentation ((Island Ballroom 3)
Chair: Yoon Jung Rhee
(Jeju National University, Korea)

S2-1 EECHE : An Energy-Efficient Cluster Head Election Algorithm in Sensor Network
Kyunghwa Lee, Joohyun Lee, Minsu Park, Jaeho Kim, and Yongtae Shin (Soongsil University, Korea)

S2-2 Boundary-Aware Topology Discovery for Distributed Management of Large Enterprise Networks
Yen-Cheng Chen (National Chi Nan University, Taiwan), and Shih-Yu Huang (Ming Chuan University, Taiwan)

S2-3 Channel Management Protocol for Wireless Body Area Networks
Wangjong Lee and Seung Hyong Rhee (Kwangwoon University, Korea)

S2-4 Experimental Evaluation of End-to-End Available Bandwidth Measurement Tools
Young-Tae Han, Eun-Mi Lee, Hong-Shik Park(KAIST, Korea), Ji-Yun Ryu, Chin-Chol Kim, and Yeong-Ro Lee(NIA, Korea)

S2-5 A Routing Management among CSCFs Using Management Technology
Ji-Hyun Hwang, Jae-Hyoung Cho, and Jae-Oh Lee (Korea University of Technology and Education, Korea)

S2-6 The network management scheme for effective consolidation of RFID-tag standards
Yusuke KAWAMURA and Kazunori SHIMAMURA (Kochi University of Technology, Japan)

S2-7 ROA based web service provisioning methodology for Telco and its implementation
WonSeok Lee, Cheol Min Lee, Jung Won Lee, and Jin-soo Sohn (KT, Korea)

Short Paper Sessions

S2-8 Attack Model and Detection Scheme for Botnet on 6LoWPAN
Eung Jun Cho, Jin Ho Kim, and Choong Seon Hong (Kyung Hee University, Korea)

S2-9 An Efficient Strategy for achieving Concurrency Control in Mobile Environments
Salman Abdul Moiz (Centre for Development of Advanced Computing, India) and Lakshmi Rajamani (Osmania University, India)

S2-10 Design of intersection switches for the vehicular network
Junghoon Lee, Gyung-Leen Park, In-Hye Shin, and Min-Jae Kang (Jeju National University, Korea)

S2-11 Exploiting Network Distance Based Euclidean Coordinates for the One Hop Relay Selection
Sanghwan Lee (Kookmin University, Korea)

S2-12 Architecture of IP Based Future Heterogeneous Mobile Network Using Network Discovery for Seamless Handoff
Ihsan Ul Haq, Khawaja M. Yahya (NWFP University of Engineering and Technology, Pakistan), James M. Irvine (University of Strathclyde, UK), and Tariq M. Jadoon (LUMS, Pakistan)

S2-13 Analytical Model of the Iub interface carrying HSDPA traffic in the UMTS network
Maciej Stasiak and Piotr Zwierzykowski (Poznan University of Technology, Poland)

S2-14 Packet Loss Estimation of TCP Flows Based on the Delayed ACK Mechanism
Hua Wu and Jian Gong (Southeast University, China)

S2-15 A QoS Based Migration Scheme for Virtual Machines in Data Center Environments
Saeyoung Han, Jinseok Kim, and Sungyong Park (Sogang University, Korea)

S2-16 Dynamic Reconstruction of Multiple Overlay Network for Next Generation Network Services with Distributed Components
Naosuke Yokoe, Wataru Miyazaki, Kazuhiko Kinoshita (Osaka University, Japan), Hideki Tode (Osaka Prefecture University, Japan), Koso Murakami (Osaka University, Japan), Shinji Kikuchi, Satoshi Tsuchiya, Atsuji Sekiguchi, and Tsuneo Katsuyama (Fujitsu, Japan)

Innovation Sessions

I1 Thur, Sept. 24, 2009, 15:40~17:30
Innovation Session 1 (Island Ballroom 2)
Chair: Seunghak Seok (KT, Korea)

I1-1 Scenario Editing Method for Automatic Client Manipulation System
Kenichi Nishikawa, Fumihiro Yokose (NTT, Japan), Haruhisa Nozue (NTT Advanced Technology, Japan), Nagatoshi Nawa, Takeshi Masuda, and Tetsuya Yamamura (NTT, Japan)

I1-2 Process Management Framework and its Implementation for Service Fulfillment of Triple Play Service Using NGOSS eTOM
Cheol-Seong Kim and Yongmi Kwon (KT, Korea)

I1-3 Unified Service Provisioning in Heterogeneous Networks and Applications
Dah-Sheng Lee, Chih-Hao Chen, Wudy Wu, and Yi-Ching Lee (Chunghwa Telecom Laboratories, Taiwan)

I1-4 GMPLS-based Cross-Layer Integrated Path Control
SunMe Kim, Eun-Young Cho, WonKyoung Lee, HakSuh Kim, Seunghyun Yoon (ETRI, Korea), and InSang Choi (Andong National University)

I2 Fri, Sept. 25, 2009, 13:30 ~ 15:20
Innovation Session 2 (Island Ballroom 2)
Chair: Hiroyuki Tanaka (NTT WEST, Japan)

I2-1 Estimating Throughput Reliability on Long End-to-End Paths
Miarisoa Randriamananjara, Marat Zhanikeev, and Yoshiaki Tanaka (Waseda University, Japan)

I2-2 Linear Programming Approach to Bandwidth Capacity Design under Small Available Traffic Information
Ryutaro Matsumura, Masayuki Tsujino, and Motoi Iwashita (NTT, Japan)

I2-3 The Network Service Platform for Real-World Data and its Application
Yuka Kato, Masahiko Narita, and Chuzo Akiguchi (Advanced Institute of Industrial Technology, Japan)

I2-4 Pricing for Flat-Rate VOD Type IPTV Services by Using Nash Bargaining Solution
Kazutaka Tezuka (Waseda University, Japan), Kyoko Yamori (Asahi University, Japan), and Yoshiaki Tanaka (Waseda University, Japan)

I2-5 Towards Predictive IPTV Service Assurance - An OSS Collaboration Approach to Multidimensional Packet Loss Analysis
Chung-Hua Hu, Yung-Yi Hsu, Chia-June Hong, Chen-Min Hsu, Shun-Hsing Hsu, and Yen-Cheng Lin (Chunghwa Telecom, Taiwan)

Exhibitions

E1. NEC Corporation: NetCracker
(Operation Support Software for achievement of the highest returns on investment)

(Booth number: 3)

NEC exhibits service and resource management based upon "NetCracker" which can be applied to fulfillment area.
Its sophisticated architecture enables to build the suitable system. NEC delivers such solution by "NetCracker" with innovative expertise.

E2. NTT COMWARE CORPORATION: MPLS-TP Network Operation System

(Booth number: 1)

NTT COMWARE exhibits Network Operation System for MPLS-TP (Transport Profile) network monitoring and management. It utilizes MPLS-TP OAM functions and provides failure-locating mechanism and QoS-based route switch-over method. By using this system, it is easy for network administrator to monitor network condition in real time and take speedy action after failure detection and QoS degradation.

E3. iPerfecta Japan Ltd.: iPerfecta, Network & Service Management Systems Solutions

(Booth number: 11)

iPerfecta is a comprehensive event-management system that enables operations personnel to link network/service alarms directly to specific circuits, services and customers. It consists of server and client applications working together to provide real-time information, turning raw messages from network/service events into digestible, suitable and well-defined alarms. iPerfecta can monitor various types of IT systems, that is, telecommunication systems, service provider's system, enterprise systems, non-stop systems, etc.
A sensibly filtered active alarm queue provides real-time event management, while iPerfecta's archive feature allows sophisticated historical analysis. iPerfecta lets operators tie network/service events to individual services and customers, filters floods of alarms into actionable data, and offers maximum scalability, modularity, and robustness. iPerfecta has complete flexibility in correlating aggregation data to view and use. It cat correlate network/service events to any data in the database. An intuitive graphical interface gives a variety of users, ranging from network operators to customer-services representatives, maximum freedom in customizing alarm views. System administrators can quickly set security profiles and easily define domains based on service types, customer sets, equipment types, geography, etc. iPerfecta is now software made in Japan.

E4. Cloud Scope Technologies Inc.: Visualization and Virtualization of Network and Services under multi-vendors environments

(Booth number: 10)

We, Cloud Scope Technologies, provide "Visualization and Virtualization of plural network protocol layers" to OpS for your networks and services under environments of multi-vendors. The visualization and virtualization gives you easy & secure management of total network operation. At our exhibition, we would like to show our products, PATHMANAGER Hexa to introduce following four major functions.
1. End to End : Multi-Vendors equipments support.
2. Hierarchical view : Multi-Layers support (hierarchical Management.)
3. Look & Feel : Touching and Clicking indicated"Visualized"viewer.
4. Provisioning: Multi-Layered Network design and simulation.
Support protocols are Pseudo wire (ATM, FR, Ethernet), VPLS, IP-VPN, 6PVE, MPLS, P2MP, VLAN, RTP, VRRP.

Exhibitions

E5. Chunghwa Telecom: NGOSS for ICT Services in Chunghwa Telecom (CHT)

(Booth number: 6)

In this exhibition, Chunghwa Telecom (CHT) will illustrate ICT services launched in the market. And we would also show how a suite of in-house OSS/BSS, which have been developed on the basis of the NGOSS framework, integrate seamlessly and efficiently for fulfillment and assurance operations of these ICT services.

E6. KT: Multichannel EPON reach extender

(Booth number: 5)

KT Network R&D Lab. demonstrates the low-cost implementation of a multichannel EPON reach extender. Combining O-E-O regeneration with WDM technology on CWDM wavelength grids, we were able to transport 8 EPON signals simultaneously on a single fiber (over 40km), without changing any existing EPON equipments including OLTs, ONTs, and splitters. We successfully deployed its prototypes in Busan city in Korea to investigate the feasibility of access network optimization where central office coverage needs to be extended.

E7. KAIST: CASFI Data Sharing Platform

(Booth number: 2)

We have designed a platform that manages measurement data and its metadata, exchanges metadata with other platforms for easy local browsing of remote data, and provides remote processing abilities. As our platform not only manages local data, but also provides consistent interface to remote data, users could browse and locate data of relevance without visiting multiple sites through different web interfaces. Our plan is to make demos in order to convince researchers from other institutions to give it a try in their laboratory.

E8. ETRI: New Converged Service is blooming from BcN Open Service Center

(Booth number: 4)

BcN Open Service Center provides two chances of actual experiences about the converged Service at exhibition. First, we will show advertisement media of BcN Open Service Center that express BcN Service introduction and BcN Open-Service-Center's roll with adequate examples. Second, we will provide visitor with actual experience chances that developed service with Open API's.

E9. Millennium Alliance: OPNET network simulator

(Booth number: 8)

OPNET **network simulator provides an environment to enable objected-oriented modeling and analyzing all types of simulated networks including wired, wireless, and satellite end-to-end communication systems,** network devices, and application protocols. It accelerates the R&D process for analyzing and designing communication networks.

Exhibitions

E10. NetMan: Smart NAC

(Booth number: 7)

Smart NAC is the solution which can build the perfect access control systems for user and system that is access to the network infra through offering wireless network access control based on international standard IEEE 802.1x, WPA/WPA2, network access blocking for unauthorized system, network usage history information for user and system.

E11. DataCraft Korea

(Booth number: 9)

Datacraft is a wholly owned subsidiary of Dimension Data plc (LSE:DDT), a US$4.5 billion leading global IT solutions and services provider. Datacraft operates in over 50 offices across 13 Asia Pacific countries. We help clients to plan, build, support, manage, improve and innovate their IT infrastructures in alliance with leading technology vendors. Especially, this exhibition features Telepresence which demonstrates a reality in the business world, high qualified video conferencing system becoming increasingly popular due to the H1N1 Flu and improving business efficiency. Besides, consulting and solution for next generation of Datacenter such as Virtualization and Cloud computing will be provided in this exhibition. It will be an alternative to accomplish Green IT and innovate business process with collaboration and saving energy.

E12. MetaBiz

(Booth number: 12)

We would like to present one of our main projects, the RFID/USN Development Toolkit. R/U-EDT is a RFID/USN middleware toolkit that can provide visibility and traceability of supply chain management(SCM) information from a global perspective. This product is fully certified by EPCglobal (GS1). R/U-EDT concentrates on building system infrastructures, industry adaptations and enterprise applications based on RFID/sensor functionalities. Also, this product provides the power of ubiquitous innovations which are expected of RFID/USN-based industrial applications.

Patrons

MS Korea

Microsoft

Founded in 1975, Microsoft is the worldwide leader in software, services and solutions that help people and businesses realize their full potential. At Microsoft, we're motivated and inspired every day by how our customers use our software to find creative solutions to business problems, develop breakthrough ideas, and stay connected to what's most important to them. Also, Microsoft has a responsibility to act as a good corporate citizen all around the world. Whether it is complying with local laws and regulations, demonstrating ethical business standards, mitigating risks to the environment, or protecting human rights, Microsoft is committed to being a global leader in corporate social responsibility.

Oracle Korea (cooperated with GALIM Information Technology)

ORACLE

GL GALIM Information Technology

Hotel Information

PHOENIX ISLAND is the official symposium hotel and venue for APNOMS 2009. Phoenix Island is an ocean resort complex combining architectural beauty and magnificent seaside scenery. You can find the more information of this resort in the web site (http://www.phoenixisland.co.kr/en/index.aspx). The specially discounted room rate (KRW 120,000 / night) is provided for APNOMS 2009 participants. Phoenix Island resort has limited rooms available and thus we suggest that you make your reservation ASAP. The following is the information about room types. Please check the information before deciding room type.

Important Information for foreign participants

Phoenix Island has only Korean domestic outlets. We recommend all foregin participants to check the type of power plug. If the type is different between Korea and your country (e.g. Japan), you need power plug converter for using any electronic devices with power supplies in the hotel.

Accommodation Reservation

Please fill out the hotel reservation form available from the Accommodation page of the APNOMS 2009 website and send it directly to the Phoenix Island resort via email prmember@bokwang.com. For any further questions on the hotel reservation, please contact the resort directly.
(Ms. Mi-Jung Lee, e-mail: prmember@bokwang.com Tel: +82-2-1577-0069)

Symposium Registration

All participants must register via online registration system (http://apnoms2009.onpcs.com/) **before payment and then use one of the following payment methods to pay.**

Only if you cannot register via the online registration system, you can register via FAX using a registration form.(the registration form is available from APNOMS 2009 website (http://www.apnoms.org/2009/).

Registration Fees

Attendee/Type	Early-Bird/Presenters (by July 13, 2009)	Advance (by Sept. 15, 2009)	Late/Onsite (after Sept. 15, 2009)
Full (including student presenters)	450 USD or 500,000 KRW	500 USD or 550,000 KRW	550 USD or 600,000 KRW
Student	150 USD or 170,000 KRW	190 USD or 200,000 KRW	230 USD or 250,000 KRW
Exhibitor	170 USD or 200,000 KRW	250 USD or 300,000 KRW	350 USD or 400,000 KRW
Extra Banquet Ticket	60 USD or 70,000 KRW	60 USD or 70,000 KRW	60 USD or 70,000 KRW
Extra Proceedings (LNCS + CD ROM)	100 USD or 120,000 KRW	100 USD or 120,000 KRW	100 USD or 120,000 KRW

- **For each of all accepted papers, at least one registration per paper including students must register by the Early-Bird due date at the Full rate** in order to guarantee their papers to be published in the proceedings.
- **Presenters** must provide the paper number and title of their paper.
- **Full** registration fee includes & CD-ROM proceedings, admissions to tutorial sessions, technical sessions, banquet, three lunches and coffee breaks.
- **Student** registration fee includes the same as full registration except the banquet and LNCS proceedings are not included.
- **Exhibitor registration fee includes lunches and banquet, but does not include admission to the tutorials and technical sessions.**

Welcome Reception

All attendees are invited to welcome reception which will be held in the PHOENIX ISLAND's Island Ballroom at 7:00 p.m. Wednesday (23rd Sep.).

Lunch

All Conference registration fees include lunch for Tuesday, Wednesday, and Thursday. When you check in at the registration desk, you will receive lunch tickets. Please bring the ticket with you for entrance to lunch. All lunches are served in the restaurant "Cogi 코지" which is on the first floor of Bella Terrace Orange-dong (Main Building).

Symposium Banquet

Thursday, September 24, 2009
7:00 – 9:00 p.m.
Island Ballroom, PHOENIX ISLAND
A Conference banquet for APNOMS 2009 attendees will be held in the PHOENIX ISLAND's Island Ballroom on Thursday (24th Sep.). The banquet is included in the conference full registration fee; it is possible to purchase an extra banquet ticket for an accompanying person on Onsite registration desk.

Visa Assistance

Foreign participants entering Korea must hold valid passport and Korean visa.
"Letters of Invitation to APNOMS 2009" will be issued to:

- keynote speakers, presenters, panelists, and organizing committee members
- conference participant who has paid their registration fee

If you need an invitation letter to apply for visa, please fill out the "Request Form for Invitation Letter" from the Visa Assitance page of APNOMS 2009 website,
and send it to APNOMS2009 General Chair (Prof. Young-Tak Kim, ytkim@yu.ac.kr) before **September 1, 2009.**
Meanwhile, please also send the scanned version of your passport for record.
For more details, please consult your travel agent.

Travel Information

Introduction to Jeju Island

Jeju-do(transliterated Korean for Jeju Province, short form of Jeju Special Autonomous Province) is the only special autonomous province of South Korea, situated on and coterminous with the country's largest island. Jeju-do lies in the Korea Strait, southwest of Jeollanam-do Province, of which it was a part before it became a separate province in 1946. Its capital is the city of Jeju.
The island contains the Natural World Heritage Site entitled Jeju Volcanic Island and Lava Tubes (reference: http://en.wikipedia.org/wiki/Jeju-do)

Map of Jeju Island

Map of Phoenix Island

Transportation

Phoenix Island Address : 127-2 Kosun-Ri, Sungsan-Eub, SeoGuiPo City, Jeju Island, Korea
Tel: +82 64-731-7000
From Jeju International Airport, you will reach the APNOMS 2009's venue (PHOENIX ISLAND Resort) in approximately one hour by car.

Unfortunately, Phoenix Island resort has poor public transportation service because it is located at sequestered village. So we recommend you to use free shuttle bus service between Jeju International Airport and Phoenix Island resort.

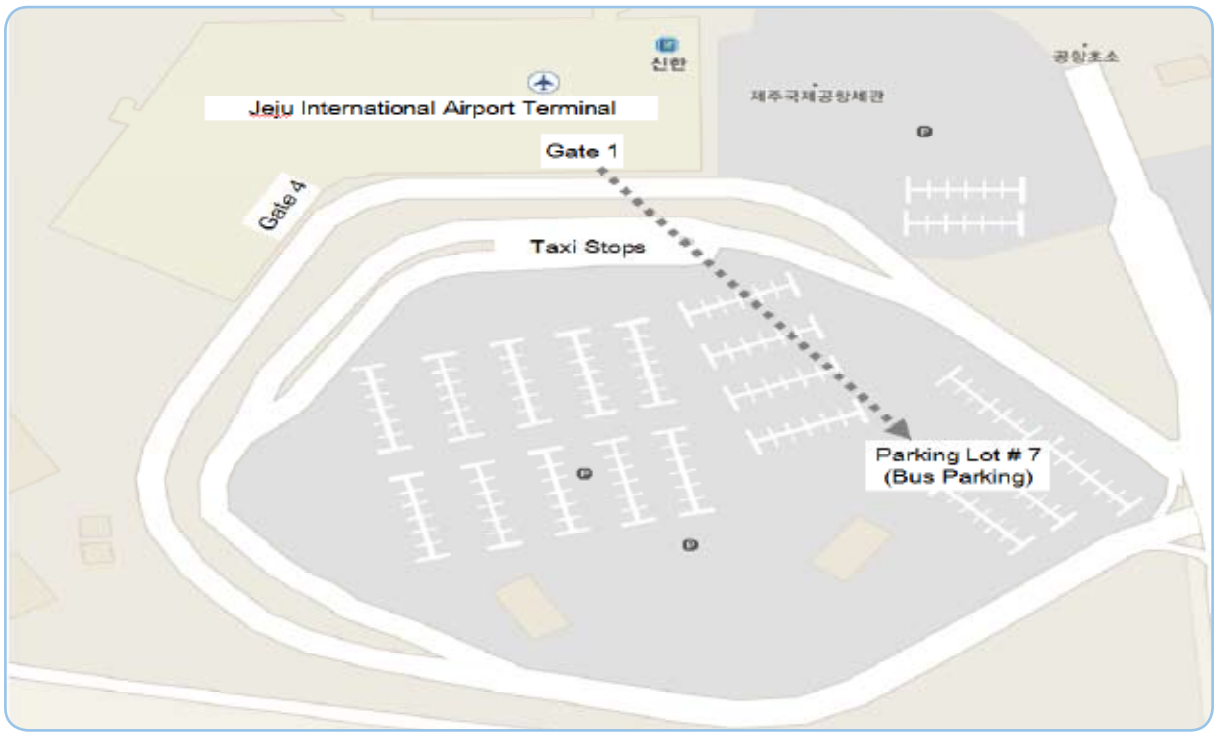
Guide to the shuttle bus: You can get on the free shuttle bus between Jeju International Airport and Phoenix Island. For using shuttle bus, please fill out the reservation form and send it to e-mail: shuttlebus.apnoms@gmail.com.
The bus timetable and reservation guide are as follows:

▪Shuttle Bus Schedule (Jeju Airport ↔ PHOENIX ISLAND)

	Phoenix Island → Jeju Airport		Jeju Airport → Phoenix Island	
	Departure	Arrival	Departure	Arrival
1	06:30(26th Sep.)	07:30		
2			10:00	11:00
3	10:30	11:30	12:00	13:00
4	12:30	13:30	13:00(22nd Sep.)	14:00
5			14:00	15:00
6	14:30	15:30	16:00	17:00
7			17:00(22nd Sep.)	18:00
8	17:30	18:30	19:00	20:00
9			21:00(22nd Sep.)	22:00

<Note>
1.This bus schedule is changeable. So please check this website again before departure.
(http://antl.yu.ac.kr/antl/apnoms2009/venue_hotel_transportation.htm)
2.The bus stop in Airport is located in Jeju International Airport Parking Lot No. 7.
3.The bus stop in Phoenix Island is in front of Bella Terrace Orange-dong (Main Building).
4.Please reserve 2 days prior to take shuttle bus

Transportation



Taxi Guide: There are two taxi stops (long-distance stop and short-distance stop) in front of Jeju International Airport passenger terminal. You should take a taxi at the long-distance stop. Fixed taxi fare is about (KRW) 30,000 won (metered fare is about (KRW) 40,000) and Duration is about one hour. Please confirm the fare before taking a taxi.

You can show following note to the taxi driver to go to the PHOENIX ISLAND resort.

이분을 성산읍 피닉스 아일랜드로 모셔다 주시기 바랍니다.
요금은 가능한 3만원으로 해주시면 매우 감사하겠습니다.
주소: 제주특별자치도 서귀포시 성산읍 고성리 127-2번지, 전화 (064)731-7000

Transportation

Transportation for ShineVille

If you'd like to go to ShileVille resort from Airport, you can get on the free shuttle bus between Jeju Int. Airport and ShineVille resort. The schedule and Stops of shuttle bus and other information are showed on the resort website: http://www.shineville.com/english/html/resort/resort_shuttlebus.asp

APNOMS 2009 provides a bus service for participants who stay at ShineVille resort on 22nd and 25th September. The location of bus stop and other information are announced on APNOMS 2009 website later on. The draft bus schedule is as follows:

	ShineVille → Phoenix Island		Phoenix Island → ShineVille	
	Departure	Arrival	Departure	Arrival
1	08:00, 23rd September	08:30		
2			18:30, 25th September	19:00

<Note>
1.This bus schedule is changeable. So please check this website again before departure.

Transportation for Jeju Grand Hotel

The Jeju Grand Hotel is located in Jeju city area, which takes just 10 minutes from Jeju International airport and provides convenient transportation. Other information are showed on the resort website: http://www.grand.co.kr/main/EN.html

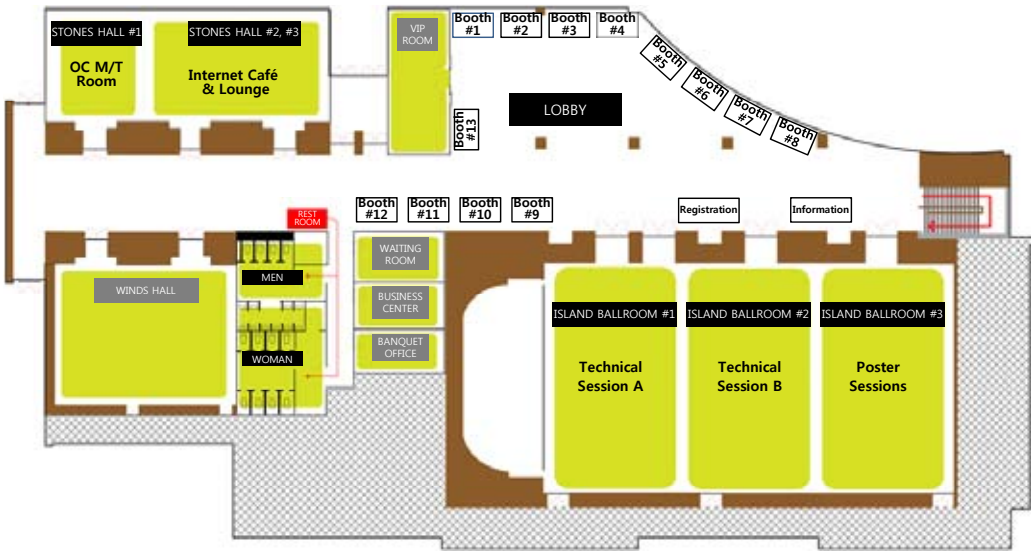
APNOMS 2009 provides a bus service for participants who stay at Jeju Grand Hotel on 22nd and 25th September. The location of bus stop and other information are announced on APNOMS 2009 website later on. The draft bus schedule is as follows:

	Jeju Grand Hotel → Phoenix Island		Phoenix Island → Jeju Grand Hotel	
	Departure	Arrival	Departure	Arrival
1	07:30, 23rd September	08:30		
2			18:30, 25th September	19:30

<Note>
1.This bus schedule is changeable. So please check this website again before departure.

Floor Plan

PHOENIX ISLAND FLOOR PLAN



Internet Café

For the convenience of APNOMS2009 attendees, Internet café will be provided at Stones Hall 2.
For details of the Internet access method, guideline will be provided at the registration desk.

OC Meeting Room

Organizing Committee meeting room is located at Stones Hall 1. Scheduled OC meetings and other committee meetings will be held at this OC meeting room.

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APNOMS 2009

http://www.apnoms.org/2009/