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Welcome to APNOMS 2007

The 10th Asia-Pacific Network Operations and Management Symposium
10 - 12 October 2007
Sapporo Convention Centor
Hokkaido, Japan

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"Managing Next Generation Networks and Services"

You are cordially invited to join us at the10th Asia-Pacific Network Operations and Management Symposium (APNOMS 2007) at Sapporo Convention Center in Sapporo, Japan.

Importance of network operations and management has been discussed for more than 10 years since 1st APNOMS in1997, and now is acknowledged to dramatically increase due to introduction of next generation networks (NGNs). NGNs provide service flexibility for users by implementing many levels of services on a variety of networks including wireless networks and even ad-hoc networks. Managing NGNs is a big effort to achieve this service flexibility as well as enabling new services, such as IPTV and multimedia group communications. These services need high level of QoS management which is a key factor of NGNs and is achieved by management features of NGNs. The operation system is not only a support system but a service creation mechanism when NGNs are established.

The organizing committee of APNOMS 2007 has timely selected "***Managing Next Generation Networks and Services***" as the main theme of the symposium. The management technologies contain not only network technologies but many aspects of ICT technologies realizing flexible services which are expected to be widely discussed during three days of the symposium. The symposium consists of keynotes, tutorials, special sessions, distinguished experts panel, technical sessions, innovation sessions, poster sessions, and the exhibitions. The innovation session is a new program of APNOMS 2007 to present and discuss ongoing research, work-in-progress ideas, practical solutions, experimental studies, and any topic of interest to the community.

On behalf of the organizing committee, I would like to extend a warm welcome to all the participants to the symposium. I sincerely hope that all of you will help make this symposium the most productive and useful and have fruitful discussions with other participants.

Finally I would like to thank all contributors to this symposium who worked hard to make this all possible. I would also like to thank all committee members, who devoted their time to preparing and organizing the symposium toward the success.

APNOMS 2007 General Chair
Hiroshi Kuriyama
NEC, Japan

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Program at a Glance

Wednesday 10, October 2007

	Conference Room 1 Small Hall	Conference Room 2 Room 204	Exhibition and Poster Room 206, 207
9:00~10:30	Tutorial 1 ***Accounting, Charging, and Billing Technologies and Standards for NGN***	Tutorial 2 ***IP Converged Network and FMBC Services***	
10:30~10:45	*Coffee Break*		
10:45~12:15	Tutorial 3 ***Network Performance Perception in the Framework of NGN***	Tutorial 4 ***Management for QoS-guaranteed Real-time Multimedia Service Provisioning in MIH (Media Independent Handover) Environment***	
12:15~13:15	*Lunch*		
13:15~13:55	***Welcome Address, Opening Remarks Keynote Speech - Koichi Asatani (Small Hall)***		
13:55~14:10	*Break*		
14:10~16:15	Technical Session 1 ***Management of Distributed Networks***	Technical Session 2 ***Network Configuration and Planning***	*Exhibit Preparation*
16:15~16:45	*Coffee Break*		
16:45~18:25	Technical Session 3 ***Network Security Management 1***	Technical Session 4 ***Sensor and Ad-hoc Networks***	

Thursday 11, October 2007

9:00~10:00	***Keynote Speech - Yoon-Hak Bang, Luoming Meng (Small Hall)***			
10:00~10:30	*Coffee Break*			***Exhibit Demos***
10:30~12:35	Technical Session 5 ***Network Monitoring I***	Technical Session 6 ***Routing and Traffic Engineering***		
12:35~13:35	*Lunch*		*Poster Preparation*	
13:35~15:40	Technical Session 7 ***Management of Wireless Networks***	Special Session 1 ***NGN: Technical and Social Challenge in Japan***	Poster ***Short Paper Session 1***	
15:40~16:10	*Coffee Break*			
16:10~18:15	Technical Session 8 ***Network Security Management II***	***Innovation Session 1***		
19:15~	***Symposium Banquet***			

Friday 12, October 2007

9:00~9:30	***Keynote Speech - Doug Zuckerman (Small Hall)***			
9:30~10:00	*Coffee Break*			***Exhibit Demos***
10:00~12:05	Technical Session 9 ***Network Monitoring II***	Special Session 2 ***Emerging Technology and Services toward NGN***		
12:05~13:05	*Lunch*		*Poster Preparation*	
13:05~15:10	Technical Session 10 ***Security of Wireless Networks***	***Innovation Session 2***	Poster ***Short Paper Session 2***	
15:10~15:40	*Coffee Break*			
15:40~17:45	***Distinguished Experts Panel (Small Hall)***			
17:45~18:00	***Closing Remarks (Small Hall)***			

Keynotes

Title: Next Generation Networks - Dream or Reality

Koichi Asatani (Kogakuin University, Japan)

Koichi Asatani received his B.E.E.E., M.E.E.E. and Ph. D degrees from Kyoto University in 1969, 1971 and 1974, respectively. From 1974 to 1997, Dr. Asatani was engaged in R&D on, FTTH, ISDN, B-ISDN, ATM networks, QoS and their strategic planning in NTT. Currently he is Dean, Department of Information and Communications Engineering, Kogakuin University, and a visiting professor, Graduate School of Global Information and Telecommunication, Waseda University, Japan. He is Fellow of IEEE, Fellow of IEICE. He is also a distinguished lecturer of IEEE.

He has published more than fifty papers in these areas, and gave more than eighty talks at international conferences including keynotes and invited talks at ICCs, Globecoms and other conferences. He is co-author of twelve books including "Designs of Telecommunication Networks"(IEICE, in Japanese), "Introductions to ATM Networks and B-ISDN)" (John Wiley and Sons, 1997), "Multimedia Communications" (Academic Press, 2001), "Information and Communication Technology and Standards" (Denki Tsushin Shinko Kai, in Japanese, 2006).

He is a founder of QoS, Reliability and Performance Modeling symposium at ICCs and Globecoms and served as Symposium co-chair for 2002-2004. He is Ex-Chair and Advisory Board Chair Emeritus of IEEE Technical Committee on Communication Quality and Reliability (CQR-TC), Ex-Chairman and Advisor of IEICE Technical Committee on Communication Quality (CQ-TC). He also served as Vice-Chairman of ITU-T SG 13 since 1988 through 2000, and Chairman of IP Network Committee, Information & Communications Technology Council (2001-), and Chair of R&D and Standards Working Group of Next Generation IP Network Promotion Forum(2005-).

Title: Innovative Network Operations and Management for Converged and Unmanned Operation Environment

Yoon-Hak Bang (KT, Korea)

Yoon-Hak Bang is a head of Network Technology Laboratory in KT. He received his master's degree from Yonsei University. Mr. Bang, senior vice president, has been working for KT since 1984 and led several key projects including development of electronic switching systems, planning of next generation network (NGN) architecture of KT and many network operations related projects. During 2003 and 2004, he led the KT's ambitious project that is the realization of Next Generation Operations Support System (NeOSS) architecture. This tremendous project is for elevating customer satisfaction through the improvement of the telecommunication operations processes in KT for business agility. Network Technology Laboratory has important missions to optimize the whole network operations environments and design the long-term planning of KT network management architecture for emerging all-IP networks and services.

Title: Manageability for Connectionless Network of NGN: Concept, Modeling and Application

Luoming Meng (BUPT, China)

Prof. Luoming Meng is Director of the state key laboratory of networking and switching, and deputy chair of the Beijing University of Posts and Telecommunications (BUPT) academic committee. He has been engaged in researching on the telecommunication networks, network management, and telecommunication software. In the finished projects, seven research results are accepted completely as ITU-T standards, and two research results have been National Science and Technology Progress Awards in China.

Now he is

- Chairman, Network Management Technical Committee, China Communications Standards Association (CCSA)
- Chairman, Telecommunication Software Committee, China Institute of Communications (CIC)

Title: Optical Control Plane – Management Included

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 37 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-Elect.

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 22 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.

Distinguished Experts Panel

Panel Chair

Hiroshi Kuriyama (NEC, Japan)

Hiroshi Kuriyama received B.E and M.E degrees in electric engineering from Waseda University, Japan in 1975 and 1977 respectively. Since joining NEC in 1977, he has been working in software development organizations, where he mainly developed network management systems and related software, such as UI and communication tools. He was a visiting researcher for software development technologies at University of Maryland, USA from 1983 to 1984. He was also assigned to Director of Software Development Department, NEC America in USA from 1992 to 2000. He is currently a senior manager of Systems Integration and Software Development Group Planning Division, NEC and engaged in planning software development processes. He is a chair of IEICE Technical Committee on Telecommunication Management in Japan.

Panelists

Byung-Deok Chung (KT, Korea)

Dr. Byung-Deok Chung is the managing director of Next Generation Network Research Department in KT Network Technology Laboratory. He is currently in charge of researching and developing the operations and management systems for transmission networks, Broadband Convergence Networks (BCN), Wibro networks, customer networks and home networks. As well, he is in charge of developing platforms for context aware and wibro-RFID over Ubiquitous Sensor Network (USN). Since he joined KT in 1987, He has been involved in leading projects on development of large-scale Operations Support System(OSS) and solving many network and service operations issues with realization of optimal processes and support systems. Especially From 2003 to 2006, as the director of Development Project Management Division, he participated in the development project of NeOSS(New Operations Support System) to elevate customer satisfaction getting improvement of telecommunications operations process for business agility toward u-Society. With NeOSS, KT was selected for the TM Forum Excellence Award titled “Best Practices Award Service Provider” in 2007. His research interests include Business Process Management (BPM), Service Oriented Architecture (SOA), Information Technology Service Library and Information Technology Service Management (ITIL/ITSM), and network/services operations & management.

Satoshi Hasegawa (Cyber Creative Institute Co., Ltd, Japan)

Mr. Satoshi Hasegawa received MS degree from Tokyo Univ. in 1976. He had been engaged in the research on network manegement and control area for more than 20 years in NEC Research Labs. His major research includes spread-spectrum communication systems, SONET self-healing networks, mobile ad-hoc network with delay tolerant feature. Currently, he is a technical consultant with Cyber Creation Institute in the area of Information and Communication Technology. He was a visiting researcher in the Department of Computer Science at the University of Illinois in 1984 and 1985, and a reserch member at Bell Communications Research in 1987 and 1988. He has served as a technical program chair of NOMS'96 and APNOMS 2000.

G. S. Kuo (National Chengchi Univ., Chinese Taipei)

Geng-Sheng (G.S.) Kuo (gskuo@ieee.org) worked with R&D laboratories of the communications industry in the United States, such as AT&T Bell Laboratories. From August 1, 2000, he joined National Chengchi University, Taipei, Chinese Taipei as a professor. Since 2001, he has been invited as Chair Professor of Beijing University of Posts and Telecommunications (BUPT) in Beijing, China. His current research interests include mobile communications, wireless communications, optical networks and IP-networks. From 1999 – 2001, he was Chair of Communications Switching & Routing Technical Committee, IEEE Communications Society. From 2001 – 2002, he was Editor-in-Chief of IEEE Communications Magazine, whose impact factor in 2002 is 3.165. Currently, he is Area Editor for Networks Architecture of IEEE Transactions on Communications, Editor and ComSoc Representative to IEEE Internet Computing, Editor of European Transactions on Telecommunications, etc. He was founding Editor-in-Chief of English-version China Communications, sponsored by China Institute of Communications and Information Industry Ministry of China. Furthermore, he was Co-Vice Director of Asia Pacific Board of ComSoc from 2004 to 2005, a member of Award Committee for ComSoc from 2003 to 2005, a member of New Technology Direction Committee (NTDC) for IEEE Technical Activity Board (TAB), and a member of ComSoc Certification Research Advisory Board. And, he was a member of Advisory Committee for Euro-NGI (Next-Generation Internet) Project. In addition, he has published over 150 technical papers in the refereed international journals and conferences.

Christian Jacquenet (France Telecom, France)

Christian JACQUENET graduated from the Ecole Nationale Supérieure de Physique de Marseille. In 1989, he joined the national directorate of France Telecom where he was in charge of the specification and of the technical support related to the deployment of the first internetworking service offerings of France Telecom. In 1993, he joined the research labs of France Telecom (FTR&D) and, from 1993 to 1997, he has been working as an R&D engineer involved in the specification, the development and the evaluation of ATM-based internetworking service offerings. From 1997 to 2002, he's been the head of an R&D team which was in charge of the conception, the specification, the development and the validation of new IP service offerings, including IP multicast networks, and dynamic provisioning techniques. From 2002 to 2005, he's been the head of the "IP services and architectures" team within the Long Distance Networks directorate of France Telecom, where he's involved in the specification and the development of France Telecom's IP network design strategies.

Christian JACQUENET is now the Director of Standards for France Telecom R&D, he chairs the board of the Home Gateway Initiative (www.homegatewayinitiative.org), and he's also a member of the IPsphere Forum's board of directors (www.ipsphereforum.org). He is currently involved in IPTV service standardization activities through his vice-chairmanship within the IPTV Focus Group that was created by ITU-T. He also chairs the coordination group for IP standardization within France Telecom, and he authored and co-authored several Internet drafts and RFC in the field of dynamic routing protocols and provisioning techniques, as well as several papers in the field of (multicast) traffic engineering and automated production of services.

Doug Zuckerman (Telcordia, USA)

His biography is in p.8.

Special Sessions

Special Session 1: NGN: Technical and Social Challenge in Japan (Thursday, Oct. 11, 2007, 13:35~15:40, Conference Room 2)

Session Chair: Jin Woo Park (Korea University, Korea)

SS 1-1: Multi-layer network control and management for next generation IP/optical network

Tomohiro Otani (KDDI R&D Labs. Japan)

Tomohiro Otani has been a senior manager of integrated core network control and management Group in KDDI R&D Laboratories Inc. in Japan since 2005 and is responsible for R&D activities in next generation intelligent optical networking. He was a manager of optical network department in KDDI Corporation from 2005 to 2006. In 1994, he joined Submarine Cable Systems Dept. of KDDI Corporation. He also holds a position of a research fellow in National Institute of Informational and Communications Technology (NICT) JGN II Tsukuba Research Center, in Japan. He received the B.E., M.E. and Ph.D. degrees in electronic engineering from the University of Tokyo, Japan, in 1992, 1994, 2002, and Professional Engineering degree in electrical engineering from Columbia University, New York, in 1998, respectively. He is a member of IEICE in Japan and received the Young Engineering Award from IEICE of Japan in 1999.

SS 1-2: NGN: NEC's View and Solutions

Takashi Matsumoto (NEC Corporation, Japan)

Takashi Matsumoto obtained his M.Sc. degree in system science from UCLA, USA in 1982, and his B.Sc. degree in electrical engineering from University of Tokyo, JAPAN in 1976. In 1976 he joined NEC Corporation and engaged in the development of telecommunication equipment. Now he is the Cheif Engineer in the Carrier Network Business Unit, NEC. His mission is the strategic management of new products and technologies as the CTO in the Carrier Network Business Unit.

SS 1-3: Next Generation Network – Technology and its Future Challenge –

Kazuyoshi Kumatani (Fujitsu Limited, Japan)

Kazuyoshi Kumatani received the B.E. degree in Electronics Engineering from Osaka Institute of Technology, Osaka, Japan in 1973. He joined Fujitsu Ltd., Kawasaki, Japan in 1973, where he was engaged in system engineering of overseas transmission systems until 1997. Then he moved to Fujitsu Europe Telecom R&D Center Limited in 1998 and is currently working for Photonic Systems Group of Fujitsu Ltd. since 2003, where he has been engaged in international business and standardization activities in NGN

SS 1-4: NGN: its darkness and brightness

Tatsuro Takahashi (Kyoto University. Japan)

Tatsuro Takahashi received the B.E. and W.E. in Electrical Engineering from Kyoto University, Kyoto, Japan, in 1973 and 1975 respectively, and Dr. of Engineering in Information Science from Kyoto University in 1997. He has been with NTT Laboratories from 1975 to 2000, making R&D on high-speed networks and switching systems for circuit switching, packet switching, fram relaying, and ATM. Since July 1, 2000, he is a professor, Communications and Computer Engineering, Graduate School of Informatics, Kyoto University. His current research interests include high-speed networking, photonic networks and mobile networks. He received the Achievement Award from IEICE in 1996, and the Minister of Science and Technology Award in 1998 both for ATM system and technology development. He was a vice president of the ATM Forum from 1997 to 1997. Prof. Takahashi is a Fellow of IEEE and IEICE.

Special Session 2: Emerging Technology and Services toward NGN (Friday, Oct. 12, 2007, 10:00~12:05, Conference Room 2)

Session Chair: Kazumitsu Maki (Fujitsu, Japan)

SS 2-1: IPTV Service Quality Management Trends

Ki Yong Cho (KT, Korea)

Ki Yong Cho received his BS and MS Degrees in Computer Science from Yonsei University, Seoul, Korea in 1990 and 1992 respectively. Since 1992 he has been working as a researcher at the Network Technology Laboratory, KT. He developed Network Management Systems in IP Network. His research interests include IP Network Management System, Network Performance, Service Quality Measurement

SS 2-2: KTF's 3.5G(HSDPA) launching story and future plan

Won-Jin Park (KTF, Korea)

Won-Jin Park received his BS and MS Degrees in Electronic Engineering from Kyung Hee University, Seoul, Korea in 1986 and 1988 respectively. He joined Korea Telecom in 1988, where he was engaged in Planning and implementing CSDN, KT 2000 Project, Development of Cell Planning Tool for PCS & IMT-2000 network, Cell Planning of UMTS network and Development of Repeater system for UMTS. Now he is the Head of New Business Office, KTF. And he is doing whole project management of KTF's 3G business.

SS 2-3: Next Generation resource provisioning

Shuang-Mei Wang (Telecom Labs Chunghwa Telecom, Chinese Taipei)

Shang-Wang is a Senior Researcher of Broadband Service Operation Support Technology Project in CHTTL (Chunghwa Telecommunication Laboratories), Chinese Taipei. She received BS from Tamkang University, Chinese Taipei in Jun. 1984, and MS from University of Illinois, U. S. A. in Feb. 1988. Since she joined CHT in 1989 she has been involved in developing network resource provisioning and management system in Optical fiber network and the Broadband Service provisioning and testing project of CHT. Her latest job is managing the project of Broadband Service configuration and activation of CHT.

SS 2-4: NGN & NGS - Their Implications to OSS/BSS tools

Umberto Vizcaino (HP, Singapore)

Mr. Vizcaino is an international person having worked in Europe, North America, Australia and Asia. He has over 25 years of experience in Telecommunications and Networking industry specializing in OSS and BSS working for large-scale international System Integrators and Product manufacturers. He holds a B.S. Degree in Mechanical Electrical Engineering and a B.S. Degree in Systems Engineering in the Basque Country and has authored published papers on OSS and Network Management. Mr. Vizcaino has been a frequent speaker in international network technology symposiums. Mr. Vizcaino has served in the Advisory Board of networking start-up companies in the US and currently is the OSS Director & Practice Principal for HP in the Asia Pacific Japan region. Since the year 2000, Mr. Vizcaino has been working with various large service providers in the area of business transformation, OSS strategies, OSS processes, as well as OSS solutions. He not only provides guidance on the international trends in these areas to the customers, but is involved in the management of actual delivery programmes. This provides him the first hand understanding of the business requirements, issues, as well as what will be the suitable solutions.

Tutorials

Tutorial 1: Accounting, Charging, and Billing Technologies and Standards for NGN (Wednesday 10, Oct. 2007, 9:00~10:30, Conference Room 1)

Taesang Choi (ETRI, Korea)

For PSTN services, telecommunication service providers have developed a relatively sophisticated and stable set of mechanisms for undertaking cost distribution across multiple providers including customers. The charging arrangement model mostly used is bilateral settlement based on the customers' call-minutes. In the case of the current Internet, however, charging arrangement between a customer and a provider is mostly flat-rate. Charging arrangement between providers is either peering or transit models depending on the bilateral architectural relationship.

NGN is a network of IP-based converged networks. Unlike the current Internet, it is divided into transport and service stratum for efficient control and management of user, service, and transport traffic. It also differentiates traffic and treats them with different levels of qualities. Thus, various NG services are no longer simple enough to account, charge, and bill based on the current methodology and charging models. Extension in terms of both technology and its associated standards is required. This tutorial addresses complexity of accounting, charging, and billing for NGN and provides possible solutions in terms of requirements, architecture, protocols, and scenarios which are under work by various SDOs and research, academia, and industry communities.

LEVEL: Introductory to Intermediate

Tutorial 2: IP Converged Network and FMBC Services (Wednesday 10, Oct. 2007, 9:00~10:30, Conference Room 2)

Hiroki Horiuchi (KDDI R&D Laboratories Inc. Japan)

IP convergence is one of mega trends in telecommunication operators. They introduce IP-based core networks and converged services like Triple play, where voice, TV and Internet services can be offered to consumers. Furthermore, they try to develop advanced service applications by converging fixed, mobile communications and broadcasting (the so-called Fixed Mobile Broadcast Convergence, or FMBC for short). The development of IMS (IP Multimedia Subsystem)/MMD(Multi-Media Domain) and NGN(Next Generation Network) technologies and standards has largely contributed to the migration in the telecommunications industry.

As one initiative to achieve this goal, telecommunication operators have come up with future infrastructure concepts based on such as the 4G mobile and NGN technologies. This tutorial presents trend of telecommunication business and technology for IP converged network, including a case study of FMC services and technologies toward future FMBC services. Furthermore, challenges for operations and management in such a converged network are studied in this session.

LEVEL: Introductory to Intermediate

Tutorial 3: Network Performance Perception in the Framework of NGN (Wednesday 10, Oct. 2007, 10:45~12:15, Conference Room 1)

Marat Zhanikeev (Waseda University, Japan)

NGN strives to deliver various services existing in separate planes today over an all-IP network, i.e. using packet-switching only. In such a network, various contents, such as video, voice, and text will have to coexist regardless of differences in QoS requirements made by each of them separately. NGN deals with this boost in complexity by separating control from the transport plane. Services will be defined and delivered at the control plane while transport layer will be used for transport only.

Currently, ITU defines 6 distinct QoS classes for IP networks in Y.1541 recommendation based basic network characteristics, such as mean and statistical upper bound of transfer delay and packet loss, etc. These characteristics, however, define only the transport network, while application QoS requirements defined in G.1010 prove to be much richer and require a non-trivial mapping to be performed between these two definitions of QoS.

Since the above deals with the general area of network performance, it is important to define network performance based on various ways existing today to perceive it through passive and active measurement. This tutorial discusses passive measurements based on RMON MIBs and active measurements targeting end-to-end performance metrics defined by IETF IPPM in the framework of heterogenous services of NGN.

LEVEL: Advanced

Tutorial 4: Management for QoS-guaranteed Real-time Multimedia Service Provisioning in MIH (Media Independent Handover) Environment (Wednesday 10, Oct. 2007, 10:45~12:15, Conference Room 2)

Young-Tak Kim (Yeungnam Univ., Korea)

Seamless mobile communication for realtime multimedia telephony and teleconference are strongly required across multiple wireless communication networks, such as IEEE 802.11 Wireless LAN, 802.16 Wireless MAN, and Cellular Telephone network. Each wireless network has different access mechanism and available bandwidth. IEEE 802.21 MIH (Media Independent Handover) has been developed to enable vertical handover and interoperability among heterogeneous wireless networks.

In order to provide QoS-guaranteed seamless mobile realtime multimedia service across heterogeneous wireless networks, the available network resource should be checked and negotiated before the vertical handoff considering the required network resource for the multimedia service. When the available network resource is unequal (i.e., the available bandwidth is increased or decreased), the end-to-end negotiation among end systems for possible adjustments in encoding and decoding of multimedia streams.

In this tutorial, the management issues of the QoS-guaranteed, seamless mobile multimedia service provisioning are studied. Firstly, it provides overview of the architecture and operation of MIH. SIP-based end-to-end QoS negotiation scheme for vertical handover is explained. The distributed management architecture for inter-AS traffic engineering for QoS-guaranteed seamless mobile multimedia service provisioning is explained.

Recommended Audience includes wireless network architects, operations managers and staffs, and researchers in the area of high-speed wireless telecommunications for QoS-guaranteed seamless mobile services.

LEVEL: Intermediate

Technical Sessions

1 Wed, Oct. 10, 2007, 14:10~16:15 (Small Hall)

Management of Distributed Networks

Chair: Hajime Nakamura, KDDI Labs.

1-1 **Design of a Digital Home Service Delivery and Management System for OSGi Framework**
Taein Hwang, Hojin Park (ETRI, Korea), Jin-Wook Chung (Sungkyunkwan Univ., Korea)

1-2 **A Self-Managing SIP-based IP Telephony System based on a P2P approach using Kademlia**
Felipe Louback, Linnyer Ruiz (Universidade Federal de Minas Gerais, Brazil)

1-3 **A Collective User Preference Management System for U-Commerce**
Seunghwa Lee, Eunseok Lee (SKKU., Korea)

1-4 **Distributed Cache Management for Context-Aware Services in Large-Scale Networks**
Masaaki Takase, Takeshi Sano, Kenichi Fukuda, Akira Chugo (Fujitsu, Japan)

1-5 **Towards Low-Latency Model-Oriented Distributed Systems Management**
Ivan Díaz Álvarez, Juan Tourino, Ramon Doallo (Univ. of A Coruna, Spain)

2 Wed, Oct. 10, 2007, 14:10~16:15 (Room 204)

Network Configuration and Planning

Chair: Moonsook Song, EzNetSoft

2-1 **OMA DM Based Remote Software Debugging of Mobile Devices**
Joon-Myung Kang (POSTECH, Korea), Hong-Taek Ju (Keimyung Univ., Korea), Mi-Jung Choi (POSTECH, Korea), James Won-Ki Hong (POSTECH, Korea)

2-2 **Process Control Technique Using Planning and Constraint Satisfaction**
Haruhisa Nozue, Hajime Nakajima, Haruo Oishi, Takeshi Masuda, Tetsuya Yamamura (NTT, Japan)

2-3 **A mechanism of KEDB-centric fault management to optimize the realization of ITIL based ITSM**
Bomsoo Kim, Young Dae Kim, Chan Kyu Hwang, Jae-Hyoung Yoo (KT, Korea)

2-4 **Automatic NE-Adapter Generation by Interface Blending/Diagnosis Methods**
Yu Miyoshi, Atsushi Yoshida, Tatsuyuki Kimura, Yoshihiro Otsuka (NTT, Japan)

2-5 **Server Support Approach to Zero Configuration of Power Line Communication Modems and Coaxial Cable Modems**
Daisuke Arai, Kiyohito Yoshihara, Akira Idoue, Hiroki Horiuchi (KDDI Labs., Japan)

3 Wed, Oct. 10, 2007, 16:45~18:25 (Small Hall)

Network Security Management I

Chair: *Chi-Shih Chao, Feng Chia Univ.*

3-1 **Architecture of Context-Aware Integrated Security Management Systems for Smart Home Environment**
Seon-Ho Park, Joon-Sic Cho, Sung-Min Jung, Young Ju Han, Tai-Myoung Chung (Sungkyunkwan Univ., Korea)

3-2 **Self-Adaptability and Vulnerability Assessment of Secure Autonomic Communication Networks**
Frank Chiang, Robin Braun (Univ. of Technology Sydney, Australia)

3-3 **Integrated OTP-based User Authentication and Access Control Scheme in Home Networks**
Jongpil Jeong, Min Young Chung, Hyunseung Choo (Sungkyunkwan Univ., Korea)

3-4 **New Access Control on DACS Scheme**
Kazuya Odagiri (Toyota Tech. Inst., Japan), Nao Tanoue (Pasona Tech, Japan), Rihito Yaegashi (Shibaura Inst. of Tech., Japan), Masaharu Tadauchi (Toyota Tech. Inst., Japan), Naohiro Ishii (Aichi Inst. of Tech., Japan)

4 Wed, Oct. 10, 2007, 16:45~18:25 (Room 204)

Sensor and Ad-hoc Networks

Chair: Keecheon Kim, Konkook Univ.

4-1 **Design and Analysis of Hybrid On-demand Multipath Routing Protocol with Multimedia Application on MANETs**
Chuan-Ching Sue, Chi-Yu Hsu, Yi-Cheng Lin (National Cheng Kung Univ., Chinese Taipei)

4-2 **A Routing Scheme for Supporting Network Mobility of Sensor Network Based on 6LoWPAN**
Jin Ho Kim, Choong Seon Hong (Kyung Hee Univ., Korea), Koji Okamura (Kyushu Univ., Japan)

4-3 **Cross Layer based PBNM for Mobile Ad hoc Networks with Vector Information in XML**
Shafqat Rehman, Wang-Cheol Song, Gyung-Leen Park, Junghoon Lee (Cheju National Univ., Korea)

4-4 **FECP Protocol for Energy Balanced Data Propagation in Smart Home Sensor Networks**
Bao Nguyen Nguyen, Deokjai Choi (Chonnam National Univ., Korea)

5 Thu, Oct. 11, 2007, 10:30~12:35 (Small Hall)

Network Monitoring I

Chair: Jae-Oh Lee, Korea Univ. of Technology and Education.

5-1 **Real-time Multicast Network Monitoring**
Joohee Kim, Bongki Kim, Jae-Hyoung Yoo (KT, Korea)

5-2 **Monitoring SIP Service Availability in IPv4/IPv6 Hybrid Networks**
Yung-Chang Wong, Rhoda Chen (Providence Univ., Chinese Taipei)

5-3 **Point of Reference in Perception of Network Performance by Active Probing**
Yap Myrvin, Marat Zhanikeev, Yoshiaki Tanaka (Waseda Univ., Japan)

5-4 **Real-Time Identification of Different TCP Versions**
Junpei Oshio, Shingo Ata, Ikuo Oka (Osaka City Univ., Japan)

5-5 **End-to-End Flow Monitoring with IPFIX**
Byungjoon Lee (ETRI, Korea), Hyeongu Son (Chungnam National Univ., Korea), Seunghyun Yoon (ETRI, Korea), Youngseok Lee (Chungnam National Univ., Korea)

6 Thu, Oct. 11, 2007, 10:30~12:35 (Room 204)

Routing and Traffic Engineering

Chair: Daniel Won-kyu Hong, KT

6-1 **Advanced Scheme to Reduce IPTV Channel Zapping Time**
Jieun Lee, Geonbok Lee, Seunghak Seok, Byungdeok Chung (KT, Korea)

6-2 **XML-Based Policy Engineering Framework for Heterogeneous Network Management**
Arjmand Samuel (Purdue Univ., USA), Shahab Baqai (Lahore Univ. of Management Sciences, Pakistan), Arif Ghafoor (Purdue Univ., USA)

6-3 **Autonomic Network Resource Management using Virtual Network Concept**
Myung-Sup Kim (Korea Univ., Korea), Alberto Leon-Garcia (Univ. of Toronto, Canada)

6-4 **A New Heuristics/GA-based Algorithm for the management of the S-DRWA in IP/WDM Networks**
Eduardo T. L. Pastor, H.A.F. Crispim, H. Abdalla Jr, Da Rocha A. F., A.J.M. Soares (University of Brasilia, Brazil), Josep Prat (Technical Univ. of Catalonia, Spain)

6-5 **Providing Consistent Service Levels in IP Networks**
Solange Rito Lima, Pedro Sousa, Paulo Carvalho (Univ. of Minho, Portugal)

7 Thu, Oct. 11, 2007, 13:35~15:40 (Small Hall)

Management of Wireless Networks

Chair: Shingo Ata, Osaka City Univ.

7-1 **A Visual Component Framework for Building Network Management Systems**
Ichiro Satoh (National Institute of Informatics, Japan)

7-2 **The Primary Path Selection Algorithm for Ubiquitous Multi-Homing Environments**
Dae Sun Kim, Choong Seon Hong (KHU, Korea)

7-3 **Design of Location Management for Heterogeneous Wireless Networks**
Li-Der Chou, Chang-Che Lu, Chyn-Yen Lu (National Central Univ., Chinese Taipei)

7-4 **Network Architecture and Fast Handover Scheme Using Mobility Anchor for UMTS-WLAN Interworking**
Incheol Kim, Sungkuen Lee, Taehyung Lim, Eallae Kim, Jinwoo Park (Korea Univ., Korea)

7-5 **Implementation of 802.21 for seamless handover across heterogeneous networks**
WonSeok Lee, MunSeok Kang, Misook Lim (KT, Korea)

8 Thu, Oct. 11, 2007, 16:10~18:15 (Small Hall)

Network Security Management II

Chair: Toshio Tonouchi, NEC

8-1 **FPGA-based Cuckoo Hashing for Pattern Matching in NIDS/NIPS**
Thinh Ngoc Tran, Surin Kittitornkun (King Mongkut's Institute of Technology Ladkrabang, Thailand)

8-2 **ATPS - Adaptive Threat Prevention System for High-Performance Intrusion Detection and Response**
Byoungkoo Kim, Seungyong Yoon, Jintae Oh (ETRI, Korea)

8-3 **A Practical Approach for Detecting Executable Codes in Network Traffic**
Ikkyun Kim (ETRI, Korea), Koohong Kang (Seowon Univ., Korea), Yangseo Choi, Daewon Kim, Jintae Oh (ETRI, Korea), Kijun Han (Kyungpook National Univ., Korea)

8-4 **A Visualized Internet Firewall Rule Validation System**
Chi-Shih Chao (Feng Chia Univ., Chinese Taipei)

8-5 **A Secure Web Services Providing Framework based on Lock-Keeper**
Feng Cheng, Micheal Menzel, Christoph Meinel (Hasso Plattner Institute at Univ. of Potsdam, Germany)

9 Fri, Oct. 12, 2007, 10:00~12:05 (Small Hall)

Network Monitoring II

Chair: Yoshihiro Otsuka, NTT

9-1 **Measurement Analysis of IP-based Process Control Networks**
Young J. Won, Mi-Jung Choi (POSTECH, Korea), Myung-Sup Kim (Korea Univ., Korea), Hong-Sun Noh, Jun Hyub Lee, Hwa Won Hwang (POSCO, Korea), James Won-Ki Hong (POSTECH, Korea)

9-2 **On the Use of Anonymized Trace Data for Performance Evaluation in IP Routers**
Yusuke Toji, Shingo Ata, Ikuo Oka (Osaka City Univ., Japan)

9-3 **10Gbps Scalable Flow Generation and Per-Flow Control with Hierarchical Flow Aggregation & Decomposition using IXP2800 Network Processors**
Djakhongir Siradjev, JeongKi Park (Yeungnam Univ., Korea), Taesang Choi, Joonkyung Lee (ETRI, Korea), BongDae Choi (Korea Univ., Korea), Young-Tak Kim (Yeungnam Univ., Korea)

9-4 **Quantitative Analysis of Temporal Patterns in Loosely Coupled Active Measurement Results**
Marat Zhanikeev, Yoshiaki Tanaka (Waseda Univ., Japan)

9-5 **Constella: A Complete IP Network Topology Discovery Solution**
Fawad Nazir (National ICT, Australia , Australia), Tallat Hussain Tarar (CERN, Switzerland), Faran Javed (NUST, Pakistan), Hiroki Suguri, Hafiz Farooq Ahmad (Communication Technologies, Japan), Arshad Ali (NUST, Pakistan)

10 Fri, Oct. 12, 2007, 13:05~15:10 (Small Hall)

Security of Wireless Networks

Chair: Kohei Iseda, Fujitsu Labs.

10-1 **What are possible Security Threats in Ubiquitous Sensor Network Environment?**
Marie Kim, YoungJun Lee (ETRI, Korea), Jaecheol Ryou (CNU, Korea)

10-2 **Security and Handover Designs for VoWLAN System**
Mi-Yeon Kim, Misook Lim, Jin-soo Sohn (KT, Korea), Dong Hoon Lee (Korea Univ., Korea)

10-3 **An Effective Secure Routing for False Data Injection Attack in Wireless Sensor Network**
Zhengjian Zhu, Qingping Tan, Peidong Zhu (National Univ. of Defense Technology, China)

10-4 **On A Low Security Overhead Mechanism for Secure Multi-path Routing Protocol in Wireless Mesh Network**
Muhammad Shoaib Siddiqui, Obaid Amin Syed, Choong Seon Hong (Kyung Hee Univ., Korea)

10-5 **Performance Evaluation of a Mobile Agent based Framework for Security Event Management in IP Networks**
Ching-hang Fong, Gerard Parr, Philip Morrow (Univ. of Ulster, UK)

Short Paper Sessions

S1
Thu, Oct. 11, 2007, 14:40~16:10
Poster Presentation (Room 206, 207)
Chair: Naoto Miyauchi, Mitsubishi Electric

S1-1 **Design and Implementation of User-oriented Handoff Framework with VoIP Service**
Hsu-Yang Kung (National Pingtung Univ. of Science and Technology, Chinese Taipei), Chuan-Ching Sue, Chi-Yu Hsu (National Cheng Kung Univ., Chinese Taipei)

S1-2 **A Study on Low-Cost RFID System Management with Mutual Authentication Scheme in Ubiquitous**
Soo-Young Kang, Im-Yeong Lee (Soonchunhyang Univ., Korea)

S1-3 **Security Management in Wireless Sensor Networks with a Public Key Based Scheme**
Al-Sakib Khan Pathan, Jae Hyun Ryu, Md. Mokammel Haque, Choong Seon Hong (Kyung Hee Univ., Korea)

S1-4 **Scheduling Management in Wireless Mesh Networks**
Nguyen Tran, Choong Seon Hong (Kyung Hee Univ., Korea)

S1-5 **Evolution of Broadband Network Management System using an AOP**
EunYoung Cho (ETRI, Korea), Ho-Jin Choi, Jongmoon Baik, In-Young Ko (ICU, Korea), Kwangjoon Kim (ETRI, Korea)

S1-6 **Standby Power Control Architecture in Context-aware Home Networks**
Joon Heo, Ji Hyuk Heo, Choong Seon Hong (Kyung Hee Univ., Korea), Seok Bong Kang (Iware, Korea), Sang Soo Jeon (Vitzrosys, Korea)

S1-7 **End-to-end Soft QoS Scheme in Heterogeneous Networks**
Young Min Seo, Yeong Min Jang, Sang Bum Kang (Kookmin Univ., Korea)

S1-8 **A Multi-Ob jective Genetic Algorithmic Approach for QoS-based Energy-Efficient Sensor Routing Protocol**
Navrati Saxena (Sungkyunkwan Univ., Korea), Abhishek Roy (Samsung Electronics, Korea), Jitae Shin (Sungkyunkwan Univ., Korea)

S1-9 **A Density Based Clustering for Node Management in Wireless Sensor Network**
Md. Obaidur Rahman, Byung Goo Choi, Md. Mostafa Monowar, Choong Seon Hong (Kyung Hee Univ., Korea)

S1-10 **Multimedia Service Management for Home Networks with End to End Quality of Service**
Ralf Seepold, Javier Martínez Fernández, Natividad Martínez Madrid (Univ. Carlos III de Madrid, Spain)

S1-11 **An OSGI-based Model for Remote Management of Residential Gateways**
Mario Ibañez, Natividad Martínez Madrid, Ralf Seepold (Univ., Carlos III Madrid, Spain), Willem van Willigenburg, Harold Balemans (Bell Labs Europe, Netherlands)

S1-12 **Design and Implementation of TPEG based RFID Application Service**
HyunGon Kim (Mokpo National Univ., Korea)

S1-13 **Energy-Efficient Distance based Clustering Routing Scheme for Long-term Lifetime of Multi-hop Wireless Sensor Networks**
Young Ju Han, Jung-Ho Eom, Seon-Ho Park, Tai-Myoung Chung (Sungkyunkwan Univ., Korea)

S1-14 **Single Sign On System Architecture based on SAML in Web Service Environment using ENUM System**
Jiwon Choi, Keecheon Kim (Konkuk Univ., Korea)

S1-15 **Providing seamless services with satellite and terrestrial network in mobile two way satellite environments**
NamKyung Lee, HoKyom Kim, DaeIk Chang, HoJin Lee (ETRI, Korea)

S2
Fri, Oct. 12, 2007, 14:10~15:40
Poster Presentation (Room 206, 207)
Chair: Youngseok Lee, Chungnam National University

S2-1 **Evaluation of Processing Load in the Network with DACS Scheme**
Kazuya Odagiri (Toyota Tech. Inst., Japan), Rihito Yaegashi (Shibaura Inst. of Tech., Japan), Masaharu Tadauchi (Toyota Tech. Inst., Japan), Naohiro Ishii (Aichi Inst. of Tech., Japan)

S2-2 **Empirical Testing Activities for NeOSS Maintenance**
Dae-Woo Kim, Hyun-Min Lim, Sang-Kon Lee (KT, Korea)

S2-3 **A study on service problem management and resource trouble management on a telecommunication network**
Byeong-Yun Chang, Hyeongsoo Kim, Seongjun Ko, Daniel Wonkyu Hong (KT, Korea)

S2-4 **Distributed and Scalable Event Correlation based on Causality Graph**
Nan Guo, Tianhan Gao, Bin Zhang, Hong Zhao (Northeastern Univ., China)

S2-5 **Detection and Identification of Neptune Attacks and Flash Crowds**
The Quyen Le, Marat Zhanikeev, Yoshiaki Tanaka (Waseda Univ., Japan)

S2-6 **Deploying Application Services Using Service Delivery Platform (SDP)**
Jae-Hyoung Cho, Bifeng Yu, Jae-Oh Lee (Korea Univ. of Technology and Education, Korea)

S2-7 **A Study of Recovering from Communication Failure Caused by Route Hijacking**
Toshimitsu Ooshima, Mitsuho Tahara, Ritsu Kusaba, Souhei Majima (NTT, Japan), Satoshi Tajima, Yoshinori Kawamura, Ryousuke Narita (NTT Communications, Japan)

S2-8 **Multi-Agent learning and Control System using Ants Colony for Packet Scheduling in Routers**
Malika Bourenane, Djilali Benhamamouch (Univ. of Es-Senia Oran, Algeria), Abdelhamid Mellouk (Univ. of Paris XII-Val de Marne, France)

S2-9 **A Framework for An Integrated Network Management System Base on Enhanced Telecom Operation Map (eTOM)**
A.R. Yari, S.H. Hashemi Fesharaki (Iran Telcom Research Center, Iran)

S2-10 **High Performance Session State Management Scheme for Stateful Packet Inspection**
Seungyong Yoon, Byoungkoo Kim, Jintae Oh, Jongsoo Jang (ETRI, Korea)

S2-11 **A Parallel Architecture for IGP Weights Optimization**
Visa Holopainen, Mika Ilvesmäki (Helsinki Univ. of Technology, Finland)

S2-12 **Internet Management Network**
Jilong Wang, Miaohui Zhang, Jia-hai Yang (Tsinghua Univ., China)

S2-13 **A Hybrid Staggered Broadcasting Protocol for Popular Video Service**
Yonghwan Shin, Soeng-Min Joe, Sung-Kwon Park (Hanyang Univ., Korea)

S2-14 **Efficient Congestion Control Based on Awareness of Multistage Resources (CC-AMR)**
Jijun Cao, Xiangquan Shi, Chunqing Wu, Jinshu Su, Zhaowei Meng (National Univ. of Defense Technology, China)

S2-15 **Segment based Caching Replacement Algorithm in Streaming Media Transcoding Proxy**
Yoohyun Park, Yongju Lee, Hagyoung Kim (ETRI, Korea), Kyongsok Kim (PNU, Korea)

Innovation Sessions

I1 Thu, Oct. 11, 2007, 16:10~18:15 (Room 204)

Innovation Session 1
Chair: Marat Zhanikeev, Waseda Univ.

I1-1 **Application of Social Network Analysis to Information Network Design**
Noriaki Yoshikai, Kyoung-Hee Park (Nihon Univ., Japan), Jun Kanemitsu, (Kyoto Sangyo Univ., Japan)

I1-2 **ISP Interconnection Architecture for Telecom Bandwidth Trading in NGN**
Dohoon Kim (Kyung Hee Univ., Korea)

I1-3 **A Proposal of Privacy-Aware Cross-Searching Network System for Disaster Affected People's Safety Verification**
Masatoshi Kawarasaki, Mizuho Shibuya (Tsukuba Univ., Japan)

I1-4 **A Policy-Based QoS Management Framework in IMS**
Nas-Son Lee, Je-hyun Lee, Jae-Oh Lee (Korea Univ. of Technology and Education, Korea)

I1-5 **Pair-detecting RFID tag system for the optical access equipment DB**
Masahiro Kasuya, Takeshi Masuda, Hiroshi Ishii, Tatsuya Yamamura (NTT, Japan)

I1-6 **Flexible Topology Architecture for Network Management System**
Hee Won Lee, Young Dae Kim, Chan Kyu Hwang, Jae-Hyoung Yoo (KT, Korea)

I2 Fri, Oct. 12, 2007, 13:05~15:10 (Room 204)

Innovation Session 2
Chair: Seung-Joon Seok, Kyungnam Univ.

I2-1 **End-to-End Quality Monitoring Method of VoIP Speech Using RTCP XR**
Masataka Masuda, Kodai Yamamoto, Tsuyoshi Furukawa, Takanori Hayashi, Majima Souhei (NTT, Japan)

I2-2 **Studies on Advanced OSS Architecture for Network Management in KT**
Sung Bong Moon, Soung Jun Ko, Daniel W. Hong (KT, Korea)

I2-3 **Virtualization-based Operation Support Systems: Improved Service Availability and Dynamic Resource Management**
Yujiro Mochizuki, Hiroshi Maeda, Masafumi Sadakari (NTT Comware, Japan)

I2-4 **A SNMP-based Remote Management Method for Device behind NAT using UDP Hole Punching**
Choon-Gul Park, Byung Deok Chung, Seung-Hak Seok (KT, Korea), Youngseok Lee (Chungnam National Univ., Korea)

I2-5 **An Extension to DHCP for Reliable IP Address Assignment Service in Wide-area VLANs**
Kenji Hori, Kiyohito Yoshihara, Akira Idoue, Hiroki Horiuchi (KDDI Labs., Japan)

Exhibitions

NTT COMWARE CORPORATION: *Tangible IP Network Designer*	
	NTT COMWARE exhibits Tangible IP Network Designer together with congestion and performance management system developed by IBM. This exhibition demonstrated intelligent root cause analysis for large network's trouble situation. Using intuitive user interface. Tangible IP Network designer allows to input various trouble scenarios of IP network, and the congestion and performance management system analyzes messages and configuration of the network and suggests root cause and measures.
Hewlett-Packard Japan Ltd.: *HP Integrated Service Management*	
	The HP Integrated Service Management solution provides an integrated OSS/BSS solution for data, voice and converged services using new generation integrated solutions time to market (revenue), high quality of service and focus on profitable subscribers. HP ISM is complete service management solution that ties service delivery, service assurance, and service usage together into an integrated service-level view. This provides an end-to-end view of the service that goes beyond just the access and core networks.

SAPPORO CONVENTION CENTER FLOOR PLAN

Sapporo Convention Center 2nd Floor Map