Advance Program

The 10th Asia-Pacific Network Operations and Management Symposium

Managing Next Generation Networks and Services

APNOMS 2007

October 10-12, 2007
Sapporo Convention Center, Hokkaido, Japan

Sponsored by IEICE TM, KICS KNOM
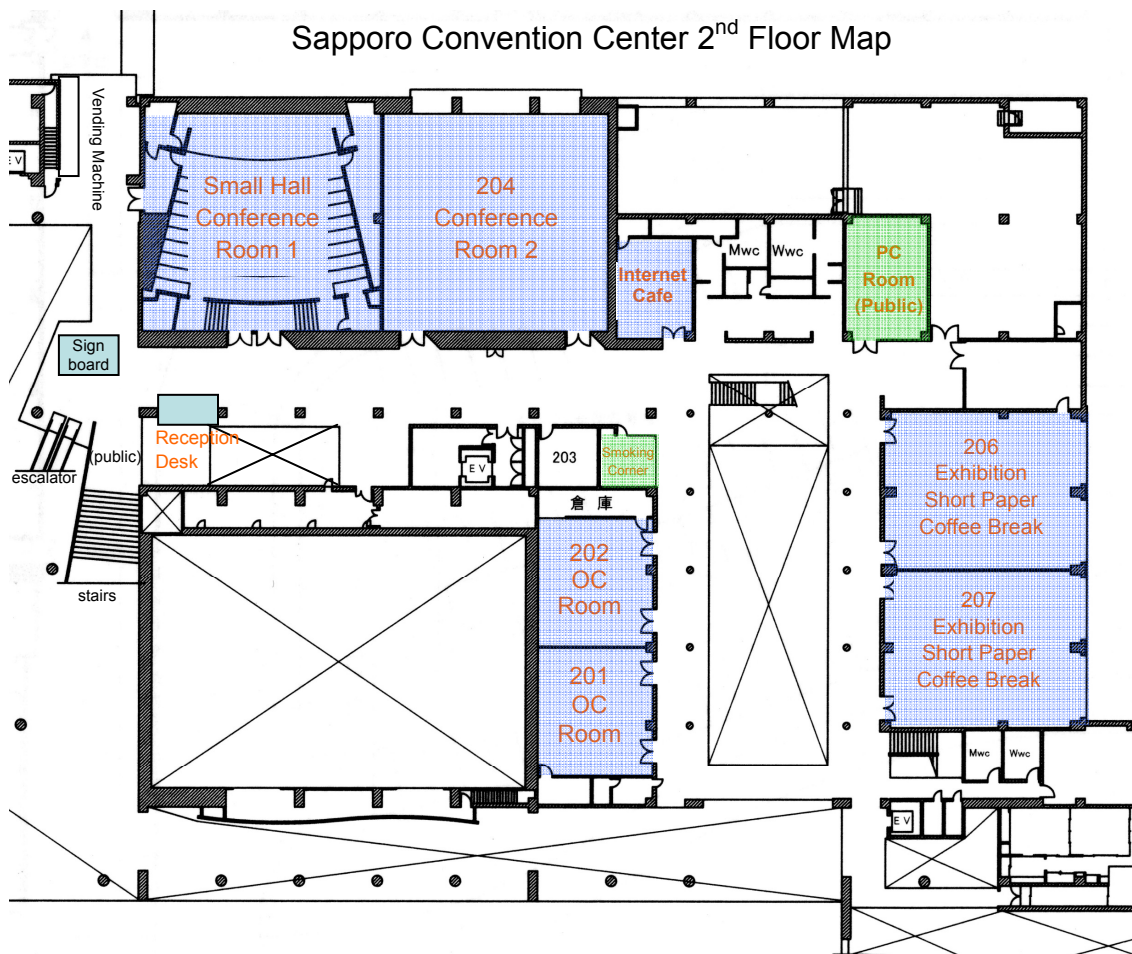**Supported by IEEE CNOM, IEEE APB, TMF, IFIP WG6.6**

http://www.apnoms.org/2007/

Table of Contents

SAPPORO CONVENTION CENTER FLOOR PLAN

Sapporo Convention Center 2nd Floor Map

Vending Machine

Small Hall
Conference
Room 1

204
Conference
Room 2

Internet
Cafe

Mwc Wwc

PC
Room
(Public)

Sign
board

escalator

(public)

Reception
Desk

203

Smoking
Corner

EV

倉庫

202
OC
Room

201
OC
Room

stairs

206
Exhibition
Short Paper
Coffee Break

207
Exhibition
Short Paper
Coffee Break

Mwc Wwc

EV

APNOMS 2007 will use only 2nd floor at Sapporo Convention Center.

Travel Information

Sapporo is the biggest city in northern Japan. You can easily reach there by frequent direct flight from major cities in Korea or via Haneda, Narita and Kansai International Airports from most international major cities.

Conveniently situated close to the city of Sapporo, New Chitose Airport has regular direct international flights to various cities overseas, with domestic flights to Japan's main international airports at Narita, Haneda, Nagoya and Kansai as well as other regional airports.
Also, Okadama Airport, in the suburbs of Sapporo, provides connections to more than six regional airports throughout Hokkaido.

APNOMS 2007 will be held at Sapporo Convention Center, which located in Sapporo. For more information on Sapporo, please visit the following URLs:
> http://www.conventionsapporo.jp/
> http://www.sta.or.jp/english/
> http://www.welcome.city.sapporo.jp/english/

To reach Sapporo Convention Center, you can take the following public transportation.

From New Chitose Airport
1. Take JR line (Rapid Airport) to Shin-Sapporo Station (28 minutes). Rapid Airport runs every 15 minutes.   Ticket is 850 yen per person.
2. At Shin-Sapporo station, change the train to Sapporo Municipal Subway Tozai Line to Higashi-Sapporo station (14 minutes). Tozai Line runs every 7 minutes. Ticket is 280 yen per person.
3. Get off the train at Higashi-Sapporo station. Sapporo Convention Center is 8 minutes walk from Higashi-Sapporo station.

The map around Sapporo Convention Center is available from Sapporo Convention Center's official site.
http://www.sora-scc.jp/english.php

From Sapporo Station or other stations in Sapporo city.
In Sapporo city, there are three municipal subway lines.   You can take these subway lines.and get off the train at Higashi-Sapporo station.
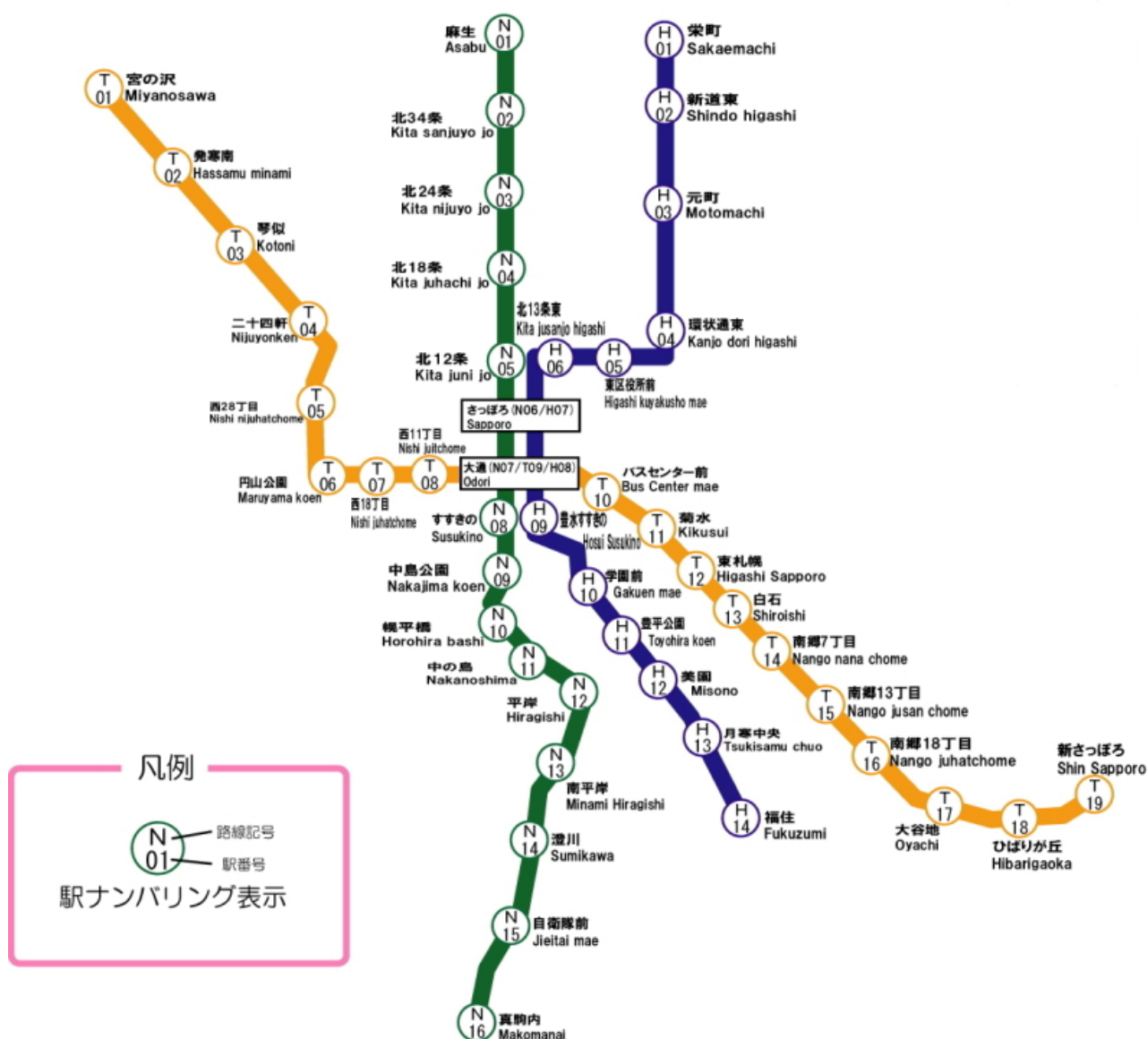
Station map for Sapporo Municipal Subway lines

For example, from Sapporo Station,
1. Two minutes from Sapporo Station to Odori Station by Subway Nanboku-line serving every six minutes.
2. Five minutes from Odori Station to Higashi-sapporo Station by Subway Tozai-sen serving every seven minutes.

Subway ticket for one person at 240 yen.

It is eight minutes walk from Higashi-Sapporo Station.

4

Welcome to APNOMS 2007

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

Sponsored by IEICE TM, KICS KNOM
Supported by IEEE CNOM, IEEE APB, TMF, IFIP WG6.6

"Managing Next Generation Networks and Services"

You are cordially invited to join us at the10[th] 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

Organizing Committee

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Young-Tak Kim, Yeungnam Univ., Korea
Young-Woo Lee, KT, Korea
Yuji Hibino, NTT, Japan

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 **TBD**	Tutorial 2 **TBD**	
10:30~10:45	Coffee Break		
10:45~12:15	Tutorial 3 **TBD**	Tutorial 4 **TBD**	
12:15~13:15	Lunch		
13:15~13:55	**Welcome Address, Opening Remarks** **Keynote Speech** (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** (Small Hall)			
10:00~10:30	Coffee Break			
10:30~12:35	Technical Session 5 **Network Monitoring 1**	Technical Session 6 **Routing and Traffic Engineering**		
12:35~13:35	Lunch		Poster Preparation	**Exhibit Demos**
13:35~15:40	Technical Session 7 **Management of Wireless Networks**	Special Session 1 **TBD**	Poster **Short Paper Session 1**	
15:40~16:10	Coffee Break			
16:45~18:25	Technical Session 8 **Network Security Management 2**	Innovation Session 1 **TBD**		
19:15~	**Symposium Banquet**			

Friday 12, October 2007

9:00~9:30	**Keynote Speech** (Small Hall)			
9:30~10:00	Coffee Break			
10:00~12:05	Technical Session 9 **Network Monitoring 2**	Special Session 2 **TBD**		**Exhibit Demos**
12:05~13:05	Lunch		Poster Preparation	
13:05~15:10	Technical Session 10 **Security of Wireless Networks**	Innovation Session 2 **TBD**	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: 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.

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:

PHOTO

TBD

In preparation.

Distinguished Experts Panel

Panel Chair

<table>
<tr><td>Photo</td><td>**Hiroshi Kuriyama (NEC, Japan)**

In preparation.</td></tr>
</table>

Panelists

Byung-Deok Chung (KT, Korea)

Dr. Byung-Deok Chung is a managing director of Next Generation Network Research Department at Network Technology Laboratory in KT. 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 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 a director of Development Project Management Office, 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.

G. S. Kuo (National Chengchi Univ., Taiwan)

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, Taiwan 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)

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.

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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.

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.

Leen Mak (Alcatel-Lucent, Netherland)

Leen Mak is with the CTO office of the Convergence Business Group in Alcatel-Lucent. Before, he worked with Philips, AT&T, and Lucent Technologies, in circuit design, systems engineering, product management, market management, and strategic standardization management. He graduated from the HTS voor Radiotechniek en Electronica in The Hague, The Netherlands, in 1972.
Leen has been active telecommunications operations and management standardization in ITU-T and in ETSI during more than 15 years.
His current standards activities include chairmanship of ITU-T Working Party 1/4, rapporteurship for ITU-T Question 8/4, and vice-chairmanships for the ITU T NGN Management Focus Group and ETSI TISPAN Workgroup 8.

Special Sessions

Special Session 1: TItle is TBD (Thursday, Oct. 11, 2007, 13:35~15:40, Conference Room 2)

Special Session 2: Title is TBD (Friday, Oct. 12, 2007, 10:00~12:05, Conference Room 2)

Session Chair: Kazumitsu Maki (Fujitsu, Japan), Taesang Choi (ETRI, Korea) and Yan Ma (BUPT, China)

SESSION TITLE, ASSIGNMENTS OF SESSION CHAIRS AND SPEAKERS ARE TBD.

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 the Institute of electronics, information and communication engineers (IEICE) in Japan and received the Young Engineering Award from IEICE of Japan in 1999.

2: NGN : NEC's View and Solutions

Takashi Matsumoto (NEC, Japan)

Takashi Matsumoto obtained his M.Sc. degree in system science from UCLA ,U.S.A 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.

3: 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.

4: 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. He joined Network Technology Laboratory, KT in 1992.

5: NGN resource provisioning solution in board-band service for CHT

Shuang-Mei Wang (Chung Hwa Telecom TL, Taiwan)

Shang-Wang is a Senior Researcher of Broadband Service Operation Support Technology Project in CHTTL(Chunghwa Telecommunication Laboratories), Taiwan. She received BS from Tamkang University, Taiwan 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.

6: Fujitsu's Activities for NGN

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

7: KTF's 3.5G(HSDPA) launching story and future plan

Won-Jin Park (KTF, Korea)

M.S. in Electronic Engineering(Major: Digital Signal Processing), Kyung Hee University
B.S. in Electronic Engineering), Kyung Hee University

May 1988	Joined Korea Telecom as a Member of Technical Staff
May 1988 ~ Dec. 1989	Planning and implementing CSDN(Circuit Switched Digital Network)
Jan. 1990 ~ Dec. 1991	KT 2000 Project (Corporate strategy toward year 2000, Joint work with Monitor Company)
Jan. 1992 ~ Dec. 1994	Designing and implementation of Network Management System
Jan. 1995 ~ Dec. 1995	Establishment of business plan of KT-PCS for licensing as a Project Manager. Establishment of business strategy of KT-PCS as a Project Manager (Joint work with Monitor Company)
Dec. 1995	Promoted to Senior Member of Technical Staff (General Manager)
Jan. 1996 ~ Dec. 1996	Plan of interconnection between different service networks as a Project Manager
Jan. 1997 ~ Dec. 2000	Development of Cell Planning Tool for PCS & IMT-2000 network as a Project manager
Jan. 2001 ~ Feb. 2003	Cell Planning of UMTS network and Development of Repeater system for UMTS as a Project Manager
Mar. 2003 ~ Oct. 2004	General Manager of Network Strategy Team
Nov. 2004 ~	Head of New Business Office (Convergence with Fixed, Broadcasting, Banking, Multimedia Contents Strategy). Project Management in KTF's 3G Business Commercial Launching

8: Title(TBD)

	(TBD)

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: TBD

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 (Sungkyunkwan Univ., 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: TBD

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: TBD

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: TBD

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., Taiwan)

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: TBD

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., Taiwan)

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
Byung-Joon 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: TBD

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, Honorio A.F. Crispim, H. Abdalla Junior, Da Rocha A. F., A.J.M. Soares (Technical Univ. of Catalonia, Brazil), Josep Prat Prat (Technical Univ. of Catalonia, Brazil)

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: TBD

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 (Kyung Hee Univ., Korea)

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

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: TBD

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., Taiwan)

8-5 A Secure Web Services Providing Framework based on Lock-Keeper
Feng Cheng, Michael Menzel, Christoph Meinel (Univ. of Potsdam, Germany)

9 Fri, Oct. 12, 2007, 10:00~12:05 (Small Hall)
Network Monitoring II
Chair: TBD

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: TBD

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: TBD

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

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-Objective 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: TBD

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
Yoohyeon Bak, Yongju Lee, Hagyoung Kim (ETRI, Korea), Kyongsok Kim (PNU, Korea)

Innovation Sessions

I1 <u>Thu, Oct. 11, 2007, 16:10~18:15 (Room 204)</u>
Innovation Session 1
Chair: TBD

I1-1 The Application of Social Network Analysis to Unformation Network Design
Noriaki Yoshikai, KyoungHee Park, Jun Kanemitsu (Nihon Univ., Japan)

I1-2 Development of ISP Interconnection Architecture for Telecom Bandwidth Trading in the NGN Environment
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 equipument 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 <u>Fri, Oct. 12, 2007, 13:05~15:10 (Room 204)</u>
Innovation Session 2
Chair: TBD

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 (KDDI Labs., Japan)

Exhibitions

In preparation.

Hotel Information

You are requested to contact directly with a hotel and book your room by yourself. Followings are example of hotels where English is available.

Luxury Hotels with English service
- Sapporo Keio Plaza Hotel Sapporo
	http://www.keioplaza-sapporo.co.jp/english/index2.html
- Sapporo Prince Hotel
	http://www2.princehotels.co.jp/app_room/epiq0010.asp?hotel=019
- Renaissance Sapporo Hotel
	http://www.marriott.com/hotels/travel/spkrn-renaissance-sapporo-hotel/
- Hotel Okura Sapporo
	http://sapporo.okura.com/
- Sheraton Sapporo Hotel
	http://www.starwoodhotels.com/sheraton/index.html
- JR Hokkaido Hotels JR Tower Hotel Nikko Sapporo
	http://www.jalhotels.com/domestic/hokkaido/sapporo/index.html

Deluxe City Hotels
- Sapporo Park Hotel
	http://www.park1964.com/n_english/index.html
- Hotel Monterey Edelhof
	http://www.hotelmonterey.co.jp/edelhof/
- Hotel Monterey Sapporo
	http://www.hotelmonterey.co.jp/sapporo/
- The New Otani Sapporo
	http://www.newotanisapporo.com/eng/index.html
- Novotel Sapporo
	http://www.novotel.com/novotel/fichehotel/gb/nov/6286/fiche_hotel.shtml
- ANA Hotel Sapporo
	http://www.ichotelsgroup.com/h/d/6c/1/en//hd/spkja

Standard Hotels
- Sapporo Aspen Hotel Sapporo
	http://www.aspen-hotel.co.jp/english/frame.htm
- Sapporo Excel Hotel Tokyu
	http://www.tokyuhotelsjapan.com/en/TE/TE_SAPPO/index.html
- Susukino Greenhotel Chain
	http://www.susukino-greenhotel1.com/e/index.html
- Ramada Sapporo
	http://www.ramada.com/Ramada/control/Booking/property_info?propertyId=15885&brandInfo=RA
- Sapporo Tokyu inn
	http://www.tokyuhotelsjapan.com/en/TI/TI_SAPPO/index.html
- Sapporo Washington Hotel
	http://www.wh-rsv.com/english/sapporo/index.html

Visa Information

Passport and visa: Foreign participants entering Japan must hold valid passport and visa (if required). For details, please consult your travel agent or the nearest Japanese Consulate.

You can visit the ministry of foreign affairs of Japan website's visa page.
This website includes the list of countries and regions that have visa exemption arrangements with Japan. If you are not a resident of the countries or areas in this list, you can find out how to apply for entry visa from the same site.

If you need an invitation letter to apply for visa, please fill out the **Visa Assistance Request Form** (Excel) and email it to Prof. Shingo Ata(ata@info.eng.osaka-cu.ac.jp)

If you need to contact and/or ask us about visa, please send email to the following people.
    Shingo Ata (TPC Co-Chair, ata@info.eng.osaka-cu.ac.jp)
    Hiroshi Uno (Publicity Co-Chair, uno@ansl.ntt.co.jp)

APNOMS 2007 Symposium Registration Form
Attendee (Please print the information. The fields marked with an asterisk (*) are required.)

_____   _____
First (given) Name *   Last (family/surname) Name *

_____   _____
Title or position   Company/Organization Name

_____   _____
Phone Number *   Fax Number   E-mail Address *

_____   _____
Country   Signature   Date

Registration Fees

	On and before 7 Sep., 2007	After 7 Sep., 2007
Full Registration	❑ 30,000 Yen	❑ 40,000 Yen
Student Registration	❑ 5,000 Yen	❑ 5,000 Yen

Total amount:_____Yen

- **Full registration fee** includes tutorial materials, technical proceedings, tutorial sessions, technical sessions, banquet, three lunches and coffee breaks.
- **Student registration fee** includes the same as full registration.
- Additional banquet fee is 6,000 yen a person.   An additional proceedings is 7,000 yen.

Payment Method (Please check one of the following three)

❑ Bank Transfer: I will remit/have remitted the registration fee by bank transfer to the following account.
Date of remittance (DD/MM/YY):___/___/___, Applicant's name of remittance:_____
    Account Information,
        Bank: Bank of Yokohama, Musashi-Kosugi Branch, Kawasaki, Japan
            1-403, Kosugi-cho, Nakahara, Kawasaki, Kanagawa, 211-0063, JAPAN   TEL +81 44 733 4381
            Swift Address: HAMAJPJT   Account#: 1623522   Account Holder: APNOMS
        The following information, in Japanese, is for remittance in Japan only.
        横浜銀行 武蔵小杉支店 (店番号: 824)   口座番号: 普通 1623522 名義: APNOMS

❑ Credit card (NOT applicable to Japanese residents):
    I hereby authorize APNOMS to charge_____YEN to my credit card.
    ❑ VISA   ❑ Master Card   Expiration Date (Month/Year) _____/_____
    Card Number | | | | | |-| | | | | |-| | | | | |-| | | | |

_____   _____   _____/_____
Cardholder's Name (please print)   Signature   Date

❑ Cash: I will pay the registration fee at the symposium. Only cash payment is accepted. (The amount depends on the application date of the registration. Please refer to "**Registration Fees**" above.)

REFUND POLICY: No refund for registration fee after 7 September 2007. There is a 5,000 Yen cancellation fee for full registration and student registration on or before this date. **Author registration cannot be cancelled.** All registration cancellations must be received in writing or via email.

Please send completed registration form to:
    For Bank Transfer and Cash payment: E-mail: tonouchi@cw.jp.nec.com
    For credit card payment: FAX: +81 44 988 0606 (**FAX only**)

Questions or Concerns: tonouchi@cw.jp.nec.com