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 ARB, TMF, IFIP WG6.6

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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.
You are cordially invited to join us at 10th 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 in 1997, 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 Members

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chair</td>
<td>Hiroshi Kuriyama</td>
<td>NEC, Japan</td>
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<tr>
<td>Vice Chair</td>
<td>James Hong</td>
<td>POSTECH, Korea</td>
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<tr>
<td>TPC Co-Chairs</td>
<td>Shingo Ata</td>
<td>Osaka City Univ., Japan</td>
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<td></td>
<td>Choong Seon Hong</td>
<td>Choong Seon Hong</td>
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<tr>
<td>Tutorial Co-Chairs</td>
<td>Hajime Nakamura</td>
<td>KDDI Labs., Japan</td>
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<td></td>
<td>Kwang-Hui Lee</td>
<td>Changwon Univ. Korea</td>
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<tr>
<td>Keynotes Chair</td>
<td>(To be done by General Chair)</td>
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<tr>
<td>DEP Chair</td>
<td>Nobuo Fujii</td>
<td>NTT-AT, Japan</td>
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<tr>
<td>Poster Co-Chairs</td>
<td>Naoto Miyachi</td>
<td>Mitsubishi El., Japan</td>
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<tr>
<td>(Poster? Innovation?)</td>
<td>Young-Seok Lee</td>
<td>CNU, Korea</td>
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<tr>
<td>Special Session Co-Chairs</td>
<td>Kazumitsu Maki</td>
<td>Fujitsu, Japan</td>
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<td></td>
<td>Taesang Choi</td>
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<td>Yan Ma</td>
<td>BUPT, China</td>
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<tr>
<td>Exhibition Co-Chairs</td>
<td>Seiichi Morikawa</td>
<td>Cisco, Japan</td>
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<td>Dongsik Yun</td>
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<td>Publicity Co-Chairs</td>
<td>Hiroshi Uno</td>
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<td>Qinzheng Kong</td>
<td>HP APJ, Australia</td>
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<tr>
<td>Financial Co-Chairs</td>
<td>Toshio Tonouchi</td>
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<td>Hong-Taek Ju</td>
<td>Keimyung Univ., Korea</td>
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<tr>
<td>Publication Chair</td>
<td>Jun Kitawaki</td>
<td>Hitachi, Japan</td>
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<tr>
<td>Local Arrangement Co-Chairs</td>
<td>Kouhei Iseda</td>
<td>Fujitsu Labs, Japan</td>
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<td>Mitsutomo Imazaki</td>
<td>NTT Comware, Japan</td>
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<td>Yoshiaki Yamabayashi</td>
<td>CIST, Japan</td>
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<td>Secretaries</td>
<td>Hikaru Seshake</td>
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<td>Jae-Oh Lee</td>
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<td>Advisory Board</td>
<td>Graham Chen</td>
<td>EPAC Tech., Australia</td>
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<td>Masayoshi Ejiri</td>
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<td>Doug Zuckerman</td>
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<td>Standing Committee</td>
<td>Nobuo Fujii</td>
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<td>James W. Hong</td>
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<td>Young-Tak Kim</td>
<td>Yeungnam Univ. Korea</td>
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<td>Hiroshi Kuriyama</td>
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<td>Yoshiaki Tanaka</td>
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<td>International Liaison</td>
<td>Ed Pinnes</td>
<td>Telcordia Technologies, USA</td>
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<tr>
<td>USA</td>
<td>Raouf Boutaba</td>
<td>University of Waterloo, Canada</td>
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<td>Canada</td>
<td>Carlos Westphall</td>
<td>SCFU, Brazil</td>
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<td>Latin America</td>
<td>Marcus Brunner</td>
<td>NEC Europe, Germany</td>
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<td>Rajan Shankaran</td>
<td>Macquarie University, Australia</td>
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<td>Alpna J. Doshi</td>
<td>Satyam Computer Services, India</td>
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<td>Teerapat</td>
<td>AIT, Thailand</td>
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<td>Sanguankotchakorn</td>
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<td>Malaysia</td>
<td>Borhanuddin Hohd Ali</td>
<td>University Putra, Malaysia</td>
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<tr>
<td>Taiwan</td>
<td>Victor WJ Chiu</td>
<td>Chunghwa Telecom, Taiwan</td>
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<tr>
<td>China</td>
<td>Luoming Meng</td>
<td>BUPT, China</td>
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Technical Program Committee

Chairs
Shingo Ata, Osaka City University, Japan
Choong Seon Hong, Kyung Hee University, Korea

Members
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Lin Zhang, BUPT, China

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Radu State, LORIA - INRIA Lorraine, France
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Yan Ma, BUPT, China
Yoshihiro Nakamura, Nihon Univ., Japan
Young Choi, James Madison Univ., USA
Yuka Kato, Advanced Institute of Industrial Technology, Japan
<table>
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<th>Additional Paper Reviewers</th>
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<tr>
<td>Adetola Oredope, Univ. of Essex, UK</td>
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<td>Alexandre Menezes, UFSC, Brazil</td>
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<td>Aujor Andrade, UFSC, Brazil</td>
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<td>Carla Merkle Westphall, UFSC, Brazil</td>
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<td>Chiara Mingardi, NEC Europe, Germany</td>
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<td>Clarissa Marquezan, UFRGS, Brazil</td>
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<td>Cristiano Both, UNISC, Brazil</td>
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<td>Cristina Melchior, UFRGS, Brazil</td>
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<td>Daniel W. Hong, KT, Korea</td>
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<td>Denis Collange, France Telecom, France</td>
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<td>Deok-Jae Choi, Chonnam Univ., Korea</td>
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<td>Dong Hoon Lee, Korea Univ., Korea</td>
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<td>Dong-Sik Yun, KT, Korea</td>
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<td>Fabrice Clerot, France Telecom, France</td>
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<td>Fernando Koch, UFSC, Brazil</td>
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<td>Georgios Karagiannis, Univ. of Twente, Netherlands</td>
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<td>Ghil Lee, ETRI, Korea</td>
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<td>Hajime Nakamura, KDDI R &amp; D Labs. Inc., Japan</td>
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<td>Hassnna Moustafa, France Telecom, France</td>
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<td>Hideo Imanaka, NTT, Japan</td>
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<td>Kamel Haddadou, LIP6, France</td>
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<td>Katsushi Iwashita, Kochi Univ. of Technology, Japan</td>
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<td>Kazuhide Takahashi, NTT DoCoMo, Japan</td>
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<td>Kazumitsu Maki, Fujitsu, Japan</td>
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</table>
# Program at a Glance

## Wednesday, October 10, 2007

<table>
<thead>
<tr>
<th>Time</th>
<th>Conference Room 1 (Small Hall)</th>
<th>Conference Room 2 (Room 204)</th>
<th>Exhibition and Poster (Room 206, 207)</th>
</tr>
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<tbody>
<tr>
<td>9:00–10:30</td>
<td>Tutorial 1: TBD</td>
<td>Tutorial 2: TBD</td>
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<tr>
<td>10:30–10:45</td>
<td>Coffee Break</td>
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<tr>
<td>10:45–12:15</td>
<td>Tutorial 3: TBD</td>
<td>Tutorial 4: TBD</td>
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<tr>
<td>12:15–13:15</td>
<td>Lunch</td>
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<tr>
<td>13:15–13:55</td>
<td>Welcome Address, Opening Remarks</td>
<td>Keynote Speech (Small Hall)</td>
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<tr>
<td>13:55–14:10</td>
<td>Break</td>
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<tr>
<td>14:10–16:15</td>
<td>Technical Session 1: Management of Distributed Networks</td>
<td>Technical Session 2: Network Configuration and Planning</td>
<td>Exhibit Preparation</td>
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<td>16:15–16:45</td>
<td>Coffee Break</td>
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## Thursday, October 11, 2007

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:00–10:00</td>
<td>Keynote Speech (Small Hall)</td>
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<tr>
<td>10:00–10:30</td>
<td>Coffee Break</td>
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<tr>
<td>12:35–13:35</td>
<td>Lunch</td>
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<tr>
<td>13:35–15:40</td>
<td>Technical Session 7: Management of Wireless Networks</td>
<td>Special Session 1: TBD</td>
<td>Poster Short Paper Session 1</td>
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<td>15:40–16:10</td>
<td>Coffee Break</td>
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<tr>
<td>19:15–</td>
<td>Symposium Banquet</td>
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## Friday, October 12, 2007

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<td>Coffee Break</td>
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<td>10:00–12:05</td>
<td>Technical Session 9: Network Monitoring 2</td>
<td>Special Session 2: TBD</td>
<td>Poster Preparation</td>
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<td>15:40–17:45</td>
<td>Distinguished Experts Panel (Small Hall)</td>
<td>Closing Remarks (Small Hall)</td>
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</table>
Title: Optical Control Plane – Management Included

Drug 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, Globecom 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 Globecom 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-).
<table>
<thead>
<tr>
<th>Title:</th>
<th>Yoon-hak Bang (KT, Korea)</th>
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# Distinguished Experts Panel

## Panel Chair

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<tr>
<th>Photo</th>
<th>Hiroshi Kuriyama (APNOMS2007 General chair)</th>
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## Panelists

<table>
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<th>G. S. Kuo, National Chengchi Univ., Taiwan (Vice-chair)</th>
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<table>
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<tr>
<th>Photo</th>
<th>Christian Jacquenet, France Telecom, France (HGI Board Chair)</th>
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<tbody>
<tr>
<td>Photo</td>
<td>Doug Zuckerman, USA (CNOM, IEEE)</td>
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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.)

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)

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 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: Title(TBD)

Ki Yong Cho (KT, Korea)

In preparation.

5: Title(TBD)

Shuang-Mei Wang (Telecom Labs Chunghwa Telecom, Taiwan)

In preparation
**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

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**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.)**

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
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 heterogeneous services of NGN.

LEVEL: Advanced

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**

**Wed, Oct. 10, 2007, 14:10-16:15 (Small Hall)**

**Session 1 – Management of Distributed Networks**

Chair: TBD

1-1 Design of a Digital Home Service Delivery and Management System for OSGi Framework

Taein Hwang (ETRI, 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 (Fujitsu Labs., Japan), Sano Takeshi, Kenichi Fukuda (Fujitsu, Japan), Akira Chugo (Fujitsu Labs., Japan)

1-5 Towards Low-Latency Model-Oriented Distributed Systems Management

Ivan Díaz Álvarez, Juan Tourino, Ramon Doallo (Univ. of A Coruna, Spain)

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

**Session 3 – 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-Adapatability and Vulnerability Assessment of Secure Autonomic Communication Networks

Frank Chiang (Univ. of Technology Sydney, Australia)

3-3 Integrated OTP-based User Authentication and Access Control Scheme in Home Networks

Jongpil Jeong (Sungkyunkwan Univ., Korea)

3-4 New Access Control on DACS Scheme

Kazuya Odagiri (Toyota Tech. Inst., Japan), Tanou Nao (Pasona Tech., Japan), Yaegashi Rincho (Shibaura Inst. of Tech., Japan), Masaharu Tadauchi (Toyota Tech. Inst., Japan), Naohiro Ishii (Aichi Inst. of Tech., Japan)

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

**Session 4 – 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)

4-3 Cross Layer based PBNM for Mobile Ad hoc Networks with Vector Information in Xml

Shafqat Rehman, Wang-Cheol Song (Cheju National Univ., Korea)

4-4 FECP Protocol for Energy Balanced Data Propagation in Smart Home Sensor Networks

Bao Nguyen (Chonnam National Univ., Korea)

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

**Session 5 – Network Monitoring I**

Chair: TBD

5-1 Real-time multicast network monitoring

Joohee Kim (KT, Korea)

5-2 Monitoring SIP Service Availability in IPv4/IPv6 Hybrid Networks

Yung-Chang Wong (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)

Thu, Oct. 11, 2007, 10:30-12:35 (Room 204)
Session 6 – Routing and Traffic Engineering
Chair: TBD
6-1 Advanced Scheme to Reduce IPTV Channel Zapping Time
Jieun Lee (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, USA), Arif Ghafoor (Purdue Univ., USA)
6-3 Autonomic Network Resource Management using Virtual Network Concept
Myung Kim (Korea Univ., Korea)
6-4 A New Heuristics/CA-based Algorithm for the management of the S-DRWA in IP/WDM Networks
Eduardo Pastor (Technical Univ. of Catalonia, Brazil), Honorio Crispim, Abdalla Junior, Antonio Martins (Universidade de Brasilia, Brazil), Josep 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)

Thu, Oct. 11, 2007, 13:35~15:40 (Small Hall)
Session 7 – 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 Network
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, Ealae Kim, Jinwoo Park (Korea Univ., Korea)
7-5 Implementation of 802.21 for seamless handover across heterogeneous networks
WonSeok Lee, MunSeok Kang, Misook Lim (K.T, Korea)

Thu, Oct. 11, 2007, 16:10~18:15 (Small Hall)
Session 8 – Network Security Management II
Chair: TBD
8-1 FPGA-based Cuckoo Hashing for Pattern Matching in NIDS/NIPS
Thinh Tran (King Mongkut’s Institute of Technology Ladkrabang, Thailand)
8-2 ATPS: Adaptive Threat Prevention System for High-Performance Intrusion Detection and Response
Byoungkoo Kim (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 (Univ. of Potsdam, Germany)

Fri, Oct. 12, 2007, 10:00~12:05 (Small Hall)
Session 9 – Network Monitoring II
Chair: TBD
9-1 Measurement Analysis of IP-based Process Control Networks
Young Won (POSTECH, Korea), Mi-Jung Choi (Univ. of Waterloo, Canada), Myung Kim (Korea Univ., Korea), Hong-Sun Noh, Jun Hyub Lee, Hwa Won Hwang (POSOC, Korea)
9-2 On the Use of Anonymized Trace Data for Performance Evaluation in IP Routers
Yu Su Kei, Shingo Ata, Ikuo Oka (Osaka City Univ., Japan)
9-3 10Gbps Scalable Flow Monitoring and Control with Flow Aggregation using OXP2800 Network Processors
Djakkongir Siradj, JeongKi Park, Qiao Ke, Young-Tak Kim (Yeungnam Univ., Korea)
9-4 Quantitative Analysis of Temporal Patterns in Loosely Coupled Active Measurement Results
Marat Zhankkeev, Yoshiaki Tanaka (Waseda Univ., Japan)
9-5 Constella: A Complete IP Network Topology Discovery Solution
Fawad Nazir (National ICT, Australia)

Fri, Oct. 12, 2007, 13:05~15:10 (Small Hall)
Session 10 – Security of Wireless Networks
Chair: TBD
10-1 What are possible Security Threats in Ubiquitous Sensor Network Environment?
Marie Kim (ETRI, Korea)
10-2 Security and Handover Designs for VoWLAN System
Mi Yeon Kim, Misook Lim, Jin soo Sohn (K.T, Korea), Dong Hoon Lee (Korea Univ., Korea)
Zhengjian Zhu, Qingping Tan, Peidong Zhu (National Unv. of Defense Technology, China)
10-4 On The Low Security Overhead Mechanism in Secure Multipath Routing in Wireless Mesh Networks
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 Session

**Thu, Oct. 11, 2007, 14:40~16:10 (Room 206, 207)**

**Short Paper Session 1**
Chair: TBD

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<td>S1-2</td>
<td>A Study on Low-Cost RFID System Management with Mutual Authentication Scheme in Ubiquitous Soo-Young Kang (Soonchunhyang Univ., Korea)</td>
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<td>Security Management in Wireless Sensor Networks with a Public Key Based Architecture Al-Sakib Pathan, Md. Mokammel Haque, Choong Seon Hong (Kyung Hee Univ., Korea)</td>
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<td>S1-4</td>
<td>Scheduling Management to Improve Throughput and Enhance Fairness in Wireless Mesh Networks Nguyen Tran, Choong Seon Hong (Kyung Hee Univ., Korea)</td>
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<td>Evolution of Broadband Network Management System using AOP Eun-Young Cho (ETRI, Korea)</td>
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<td>S1-6</td>
<td>Standby Power Control Architecture in Context-aware Home Networks Joon Heo, Choong Seon Hong (Kyung Hee Univ., Korea)</td>
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<td>End-to-end Soft QoS Scheme in Heterogeneous Networks Young Min Seo, Yeong Min Jang, Sang Bum Kang (Kookmin Univ., Korea)</td>
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<td>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)</td>
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<td>S1-9</td>
<td>A Density Based Clustering for Node Management in Wireless Sensor Network Mohammad Rahman (Kyung Hee Univ., Korea)</td>
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<td>S1-10</td>
<td>Multimedia Service Management for Home Networks with End to End Quality of Service Ralf Seepold, Javier Martinez Fernández, Natividad Martinez Madrid (Univ. Carlos III Madrid, Spain)</td>
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<td>S1-11</td>
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<td>Design and implementation of TPEG-RFID application service HyunGon Kim (Mokpo National Univ., Korea)</td>
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<td>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)</td>
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**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 (ETRI, Korea)

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**Fri, Oct. 12, 2007, 14:10~15:40 (Room 206, 207)**

**Short Paper Session 2**
Chair: TBD

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<td>Empirical Testing Activities for NeOSS Maintenance Dae-Woo Kim (KT, Korea)</td>
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<td>A study on service problem management and resource trouble management on a telecommunication network Byeong-Yun Chang (KT, Korea)</td>
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<td>Distributed and Scalable Event Correlation through Enhancing Causality Graph Nan Guo (Northeastern Univ., China)</td>
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<td>Deploying Application Services Using Service Delivery Platform (SDP) Cho Jae-Hyoung, Bifeng Yu, Jae-Oh Lee (Korea Univ. of Technology and Education, Korea)</td>
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<td>Multi-Agent learning and Control System using Ants Colony For Packet Scheduling in Routers Malika Bourenane, Djillali Benhamamouch (Univ. of Es-Senia O crane, Algeria)</td>
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<td>High Performance Session State Management Scheme for Stateful Packet Inspection Seungyong Yoon (ETRI, Korea)</td>
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Visa Holopainen (Helsinki Univ. of Technology, Finland)

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

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

S2-14 Efficient Congestion Control Based on Awareness of Multistage Resources (CC-AMR)
Cao Jijun (National Univ. of Defense Technology, China)

S2-15 Segment based Caching Replacement Algorithm in Streaming Media Transcoding Proxy
Yoohyeon Bak, Yongju Lee, Hagyoun Kim (ETRI, Korea), Kyongsok Kim (PNU, Korea)

Innovation Session
Thu, Oct. 11, 2007, 16:10~18:15 (Room 204)
Innovation Session 1
Chair: TBD
I1-1 The Application of Social Network Analysis to Unformation Network Design
Noriaki Yoshikai (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 (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)

Innovation Session 2
Chair: TBD
I2-1 End-to-End Quality Monitoring Method of VoIP Speech Using RTCP XR
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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.

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  [http://www.ichotelsgroup.com/h/d/6c/1/en//hd/spkja](http://www.ichotelsgroup.com/h/d/6c/1/en//hd/spkja)

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- Sapporo Excel Hotel Tokyu
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<th>After 7 Sep., 2007</th>
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<tr>
<td>Full Registration</td>
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<td>40,000 Yen</td>
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<tr>
<td>Student Registration</td>
<td>5,000 Yen</td>
<td>5,000 Yen</td>
</tr>
</tbody>
</table>

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- Full registration fee includes tutorial materials, technical proceedings, tutorial sessions, technical sessions, banquet; three lunches and coffee breaks.
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  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) ______ / ______

  Cardholder 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.)

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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