
Global Communications Newsletter

November 1999

Agenda For ComSoc' 50th Anniversary Celebration

By Jack McDonald, Comsoc Past President

When ComSoc reaches its 50th birthday in 2002, what should we do to celebrate? The Board of Governors asked me to convene an advisory board composed of industry leaders with worldwide scope to answer this question. The advisory board has concluded its work and presented its recommendations to the Board of Governors at the June meeting in Vancouver. This report summarizes our recommendations.

First a word about the advisory board. Members are from the international community, with Europe represented by Maurizio Decina and Gottfried Ungerboeck, Asia and Oceania by Hiroshi Inose, Charles Kao and Craig Skinner, and the Americas by Don Cox, Celia Desmond, Larry Lang, Bob Lucky, Jack McDonald, and Andy Viterbi. ComSoc officers on the board are Tom Plevyak, Nim Cheung, and Jack Howell.

As the main event, we recommend a grand reunion (at ICC or GLOBECOM) with special efforts to attract a broad attendance. It should be an event not to be missed with receptions, keynote presentations, and awards. There should also be separate "Share

the Joy" meetings at centers around the world. In addition, special chapter meetings should be targeted worldwide with special publicity, receptions, guest lectures, and local awards.

In publications, we recommend a special issue of *IEEE Communications Magazine*, including a collection of personal recollections of the past 50 years and a look at the future. We also recommend that a directory of members be published and that an article for *Scientific American* and *Spectrum* be published. The advisory board felt that the society is weak in recording its history and, therefore, we recommend publishing a 50-year history.

Other recommendations include publicity in the form of displays in science museums, exhibits at the Smithsonian, a 50th Anniversary web site, a special ComSoc letterhead, and Engineer's Week events.

In summary, the celebration should personally involve every member to some degree. In addition to good times, it should fill a historical gap and recognize that today's contributions are built on the shoulders of contributions over the preceding 50 years and earlier.

A Report from ICC '99

By Vijay K. Bhargava, Canada

The 1999 ICC attracted more than 1200 delegates from industry and academia around the globe to the beautiful city of Vancouver on the west coast of Canada. This year's conference theme was "Multimedia and Wireless: Building Blocks for the New Economy," which reflects today's challenges. About 44 percent of a total of 850 papers submitted were accepted for presentation after an extensive peer review. Of these, 143 were from the United States, 114 from Asia Pacific, 75 from Europe, the Middle East and Africa, 40 from Canada, and 3 from Latin America.

The Technical Program combined a special event (plenary/keynote address) with 51 technical sessions (10 parallel tracks with approximately seven papers in each) on all aspects of communications engineering. The areas that drew the most submissions were personal communications, communications theory, radio communications, computer communications, and multimedia communications. In addition, there were 10 Business Applications Sessions covering topics from wireless local loop, to multimedia over the Internet, to life after PCS. In each session, expert panelists discussed industry trends, consumer demands and expectations, and the real obstacles that must be faced and overcome.

Four mini-conferences were also held in conjunction with this year's ICC, namely: Multimedia Applications, Services & Technologies (MAST '99); Quality of Service Mini-Conference (QoS); Communications Theory Mini-Conference

(CTMC '99); and the International Symposium on Internet Telephony (ISIT '99).

The conference inaugural speaker was Dr. Richard Smith, Chief Executive Officer at Telcordia Technologies Inc. (formerly Bellcore). In his keynote, Dr. Smith focused on key technologies, including evolution of multimedia, wireless, and Internet technologies that will have a major impact on the telecommunications and computer industries over the next five years.

Aside from the Technical Program and Business Applications Sessions, there were a total of 21 tutorials presented in two days to give the conference participants a sound understanding of the technical subjects. In fact, the tutorials were well attended, with a record 676 attendees.

The conference received corporate sponsorship from AG Communication Systems at the platinum patron level; Nortel Networks, Lucent Technologies, and BC Tel at the gold-plus patron level; TranSwitch, IBM, and Sierra Wireless at the gold patron level; and Ericsson at the silver patron level.

In this summary, we only intend to provide a flavor of the conference program. The conference record should be consulted for details. A copy of the 2055-page ICC '99 proceedings (IEEE catalog number: 99CH36311) may be ordered from: IEEE Operations Center, (tel: 1-800-678-IEEE, fax: 1-908-981-9667, e-mail: customer.services@ieee.org)

ICC '2000 will be held in New Orleans, LA, USA, on 18-22 June.

Meeting the Challenge in End-to-End Service Management: A Report from APNOMS '99

Young-Hyun Cho, Hiroshi Tokunaga, James W. Hong, and Takafumi Chujo,
Korea and Japan

APNOMS '99, the third Asia-Pacific Network Operations and Management Symposium, was held September 1-3, 1999 in Kyongju, Korea. This symposium, which follows the successful APNOMS '97 held in Seoul, Korea and APNOMS '98 held in Sendai, Japan, was attended by 276 researchers, developers, service providers, and vendors from nine countries, 41 companies, and 14 universities (the largest attendance in the history of APNOMS). Although APNOMS '99 strongly reflects the Asia-Pacific region's activities on network and service management issues, it is becoming a global symposium with participants from around the world.

The theme of this three-day symposium was "Meeting the Challenge in End-to-End Service Management." The emergence of new information and networking technologies and sophisticated customer requirements are changing the way network operators and service providers do businesses. Network operations and management has become one of the most important issues in realizing successful businesses and providing customer satisfaction. Further, in today's globally competitive market, network operators and service providers are facing the challenge to realize end-to-end services, which are faster, cheaper, and more reliable. It was very timely that APNOMS '99 focused on this theme of meeting the challenge in end-to-end service management.

On the first day of the symposium, the APNOMS '99 participants enjoyed six tutorials on the hottest topics in the area of network operations and management:

- **Becoming a Smooth Operator: Achieving End-to-End Automated Service Management**, Elizabeth Adams (Tele-Management Forum).
- **IP Impact on the Evolution of Telecom Networks**, Salah Aidarous (NEC America, USA).
- **Policy-Based Management for Enterprise and Carrier IP Management: SNMP, COPS, LDAP, DEN, and Beyond**, Takeo Hamada (Fujitsu Labs. of America, USA).
- **Mobile Network Management: IMT 2000 Management**, Jong-Tae Park (Kyungpook Univ., Korea).
- **Integrated Telecommunications Management Solutions**, Graham Chen (CiTR, Australia).
- **IP Network/Service Management (IP VPN Technology)**, Eric How (Lucent Technologies).

All tutorials were well attended and there were many interesting discussions between the audience and speakers.

The second day started with welcoming messages from the general chair, Young-Hyun Cho (Korea Telecom, Korea) and Dae-Young Lee (KICS Chair, Korea), followed by two keynote speeches by the dis-

tinguished invited speakers. Jong-Tae Lim (Ministry of Information and Communication, Korea) delivered a speech on "Cyber Korea 21," describing how the Korean government plans to invest and provide support for the development of information and communication technologies in Korea in the 21st century. Chu-Hwan Yim (ETRI, Korea) gave a speech on "Multi-Protocol Label Switching Technology for Next Generation Internet," emphasizing how this technology will play a key role in building the infrastructure and in operating and managing the next generation Internet. The third day also started with two keynote speeches. Sang-Hoon Lee (Korea

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A Report from wmATM '99 Willie Lu, U.S.A.

The IEEE wmATM '99 was held in San Jose, California from June 2 to June 4, 1999. Willie Lu, General Chair and Founder, addressed the opening of the IEEE wmATM workshop. He stressed the significance of wmATM technology in third-generation wireless communications and broadband wireless access systems. By using wmATM as the wireless core pipe, an open software-defined radio platform can be constructed for the base station and wireless terminal.

Dr. Qi Bi, Technical Chair, analyzed the features of ATM for wireless applications compared to IP technology, and pointed out that wmATM has great potential to apply QoS in wireless mobile communications. Wireless performance issues with wmATM were also addressed in his talk.

Dr. William Lee, Co-Chair, illustrated the importance of wmATM in CDMA networks, including backbone networks for inter-MSC transport and service issues. Dr. Lee also mentioned that wmATM can help simplify network management and planning.

Lou Dellaverson, Chair of the ATM Forum WATM WG, described universal wireless access using wmATM technology and the evolution of WATM standardization process.

Official technical sessions started at 10 a.m. June 2. More than 30 authors from around the world presented their original contributions to wmATM development. Most of them were from major telecom industries and research institutes which have been actively involved in this field. Their topics covered medium access control, modulation, handover, performance analysis, admission control, congestion avoidance, channel management, mobility control, signaling stack, QoS control, software radio, network optimization. Also covered were third-generation wireless issues. Compared with the previous wmATM workshop (wmATM '98), this event greatly promoted wmATM application solutions to construct the broadband packetized open wireless pipe with guaranteed QoS for enhanced third-generation wireless and broadband access systems.

wmATM '99 also served as the annual meeting to keep all members up to date on the newest developments in advanced wireless communications. Mr. Bartolome Arroyo from the European Commission reported on the newest wireless framework and on-going projects in the union, and extensive discussions took place among participants.

During wmATM '99, the committee also spent time planning the next workshop, which will be part of the IEEE 3G Wireless Conference (3Gwireless.com). All attendees showed great interest in meeting again next year.

The wmATM '99 Workshop closed at 4 p.m. June 4.

Thanks to TF-wmATM/Delson for organizing this important wmATM event. Acknowledgment is also given to those who sponsored relevant activities during the meetings, including Lucent and Infineon.

Privatization and Deregulation: Myths and Realities

Michel Daoud Yacoub, Helio Waldman, and Marcio Wohlers de Almeida
Brazil

Universalization of telephony and a minimum cost solution for a large-scale economy were the political justifications of the strongly regulated telecom environment, a business model imposed worldwide in mid-century. Later on and in the advanced countries, as such a goal was achieved this old model lost its main justification. At the same time, it became clear that, in order to introduce new services and at a pace compatible with market demand, a new business framework, more agile and competitive, was needed. Thus, deregulation was a result of the emerging needs of the advanced economies as they fully accomplished the prior steps in their technological evolution. And again, like the regulation policy in mid-century, deregulation became an ubiquitous necessity even in those economies where telephony, far from being a universal commodity, was and still is considered to be a luxury.

Rather than resulting from basic societal needs, as in the developed economies, deregulation in the emerging economies derives from a totally diverse set of circumstances. It seems to be tightly associated with the globalization process. The national debt in these countries is so overwhelming that the government is hard pressed to look for financial means of sustaining the national currency. At the same time, stiff competition in the United States and Europe forces a number of competitors to look for business opportunities elsewhere, and these countries, for one reason or another, become the natural targets. The need to sell and the willingness to buy naturally lead to the development of business deals that are solely focused on money, not on Telecom.

In the public debate on privatization, however, the breakup and sale of the State monopoly were presented as a necessary step toward the universalization of telephony. Universalization, on the other hand, was the main reason why the State monopoly was established in the first place. It is no wonder that public opinion is now confused about this issue. As new myths replace old ones in the official world view, it becomes harder to envision reality itself.

In Brazil, the government's policy on telecommunications is built upon five principles:

- Universalization of services.
- Service provision in increasing levels of quality and quantity.
- Reinforcement of the State as regulating agent (as opposed to its old entrepreneurial role).
- Attraction of private capital, especially from abroad.
- Maximization of the sale of the government-owned operating companies.

In theory, these principles would guarantee easy and massive access to technology, good quality services, and would lead to new business opportunities and new jobs. It seems, however, that only the last two items of those five principles have been accomplished. Uni-

versalization objectives have been set in terms of overall growth, without assurance of service provision to socially or geographically challenged sectors. While technically competent and well staffed, the regulating agency has yet to show its vigor in the enforcement of service quality and availability.

One year after the privatization push, reality is now showing a scenario completely different from that initially pictured by the privatization myth. Jobs have not been created. On the contrary, as a part of the globalization philosophy, the new companies adopt the downsizing approach and, as a consequence, departments and areas of services are dismantled. The employees are then faced with the alternatives of moving to a new area or to feature mass dismissals either as part of incentive or compulsory programs. The responsibility of the services provided by these areas or departments are then trusted to third parties. In the eager desire to provide new lines and new services, at any cost (usually at the lowest possible) and in as short a period of time as possible, the competence of such companies is not debated. And the result has been disastrous, with several exotic situations occurring: tele-

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Distinguished Lecturers Program

Carole M. Swaim

Senior Administrator, Executive & Volunteer Services

Having talked with many, many Chapter Chairs over the past several months, one conclusion is readily apparent: ComSoc chapter members thoroughly enjoy technical lectures and discussions. Perhaps that is a reason for the high interest in our Distinguished Lecturer Program, because, without a doubt, it continues to be the most popular and well-received service offered to our chapters.

Distinguished Lecture Tours are provided by the Society to local Chapters. They may be arranged in response to a request from one or more Chapter Chairs, or initiated by our Vice President/Membership Development. Tours are generally set up to benefit existing members and Chapters, but can also be effective means of generating new members and promoting the formation of new Chapters.

If you are interested in promoting a tour in your area or region, here are some helpful guidelines from our Policies & Procedures Manual for you to follow.

General Procedures

- Funding is provided for a Distinguished Lecturer to address multiple groups during a lecture tour. (Please note that individual lectures are not funded through this particular program.) The tour should involve a series of lectures, addressing at least three groups in three separate locations, with reasonable geographical proximity to each other.

- Grass roots organizers may be Chapters or Sections, local conference organizers, or even a group of members in an area where no ComSoc chapter exists. The lecture can then be used to generate membership or encourage new chapter formation.

- The lecturer is selected by the Director/Membership Programs in conjunction with the Vice President/Membership Development and/or the Vice President/Technical Activities.

- Funding will be provided (if required) to cover the lecturer's travel. Living expenses, such as local hotel and meals, plus transportation to and from the airport are generally the responsibility of the local Chapter. Travel, lodging, and meals must be booked at economic rates, except for reasonable business travel. (Funding may include night before/after each lecture as required by the schedule to accommodate needs of local organizers.)

- Expenses are then submitted to the Vice President/Membership Development for approval. (Receipts are provided in accordance with IEEE and ComSoc rules.)

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Telecom, Korea) delivered a speech on "Enhanced Networking Architecture and Its Impact on Telecommunications Network Management," and Yukou Mochida (Fujitsu Labs., Japan) gave a speech on "Toward User-Friendly Networks."

Following the keynote speeches on the second and third day of the symposium were the technical presentations. At APNOMS '99, 40 high-quality technical papers on the latest results of research and development were presented. Technical paper and poster presentations covered topics on management platforms, service management, CORBA-based management, TMN, models and architectures, Web-based management, mobility and mobile network management, new technologies and trends, distributed systems management, and IP network management.

The APNOMS '99 participants were also treated to two days of demo exhibitions on the latest tools and systems on network operations and management, presented by DSET, Fujitsu, HP Korea, Informix Korea, Korea Telecom, Lucent Technologies, NEC, NTT-AT, NTT Comware, Oracle Korea, TCSI, and Vertel.

The third and final day of APNOMS '99 featured a very interesting panel of distinguished experts discussing the topic of "How to Realize Seamless End-to-End Service Management." The panel was chaired by Masayoshi Ejiri (Fujitsu, Japan), and the panelists were Salah Aidarous (NEC America, USA), Graham Chen (CiTR, Australia), Takeo Hamada (Fujitsu Labs. of America, USA), Makoto Yoshida (NTT-AT, Japan), and Jong-Tae Park (KNU, Korea). Salah started by describing the implications of the new integration technologies for multi-service providers and multi-vendor environment. Graham emphasized the importance of knowing and understanding the customers in order to satisfy their require-

ments and needs. Takeo explained the importance of policy-based management for end-to-end service management. Jong-Tae explained how new technologies can function as enablers for the new paradigm of service management. Finally, Makoto explained how to promote the common industry-wide vision for realizing seamless end-to-end service management.

Overall, APNOMS '99 was a very successful symposium in terms of the number of participants, the quality of technical and poster presentations, the number and quality of exhibitions, the visionary keynote speeches, and finally, the lively discussions between the attendees and presenters.

APNOMS '2000 (<http://dpnm.postech.ac.kr/knom/>)

PRIVATIZATION AND DEREGULATION/(Continued from page 3)

phones, once in operation, stop working; public telephones being connected to residential lines, and vice-versa; changes in the list number; the same list number associated with more than one piece of equipment; telephone bills reporting connections not associated with the line; and many others. The number of complaints and the widespread discomfort generated have reached a high enough level to merit headlines in the main newspapers and on television networks for several weeks.

As the recent Brazilian push for privatization completes one year, the question of whether universalization and upgrading will really occur is asked more and more often. Recent evidence of degradation in the quality of telephone services is in sharp contrast with the expectations raised by the new operating companies. Privatization in the Third World seems to be substantially different in meaning and purpose from privatization in the advanced countries. In the United States and Europe, privatization has opened the way for money to be invested in telecommunications, keeping telecom's identity and objectives untouched. In Brazil, it looks as if the telecommunications system has been invested in the money business, keep-

DISTINGUISHED LECTURERS PROGRAM/(Continued from page 3)

- No more than one tour may be arranged within a region in a year, and the Lecturer may not profit financially from the tour.

Tour Logistics

- An easy way to begin organizing a tour is to focus on a pre-defined need or on the availability of a lecturer visiting in a particular geographic region.

- Arrangements are made well in advance with the local sponsoring groups. Local contacts must be established in (at least) three separate locations before further steps are taken to firm up the lecturer's commitment or to proceed with other logistical details.

- The local organizers (and the speaker) must have a two-month lead time in order to arrange and advertise the tour properly. Logistical feasibility must be determined, i.e., is it possible to book connecting travel between sites in the time allowed? Are the lectures set in a geographic pattern to minimize travel expenses?

- Local organizers must make sure the following issues are addressed to the satisfaction of the lecturer:

- Travel arrangements to and from airport to lecture sites and hotels.
- Hotel accommodations as required.
- Arrangements provided for any additional local contacts or meetings for the lecturer.
- Making available key tourist information if lecturer has some spare time.

- It is essential that the speaker be briefed on local "politics": are the organizers a Chapter, Student Branch, or a group of members interested in forming a chapter? Are they a group of local professionals who can be encouraged to join ComSoc? (The lecturer would then be encouraged to act as our ambassador promoting membership, etc.)

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A publication of the
IEEE Communications Society