Global Communications Newsletter

June 1997

The First UNESCO International Congress on Ethical, Legal, and Societal Aspects of Digital Information

By M. Adeeb R. Ghonaimy, Egypt

Due to the widespread use of digital communication technologies as the infrastructure for the information society, it has become essential to integrate a number of basic disciplines. These disciplines are communication and broadcasting, information (libraries, archives, and scientific and technical information), and informatics (computers and the different levels of networks from local networks to the global Internet).

Therefore, UNESCO took the initiative to establish a forum that will discuss the various aspects of the production, access, dissemination, preservation, and use of digitized multimedia on the global information highway. Such activities necessitate giving due attention to the ethical, legal, and societal problems that arise.

The first keynote speech was given by Robert Kahn, the co-inventor of the Internet. He gave the evolution of the Internet as a global information system in which all kinds of information are accessed from virtually anywhere. The second keynote speech was given by Michael Nelson, about building trust in cyberspace. The main points presented were security and reliability, identity and authentication, confidentiality, verification, and jurisdiction. For security and reliability he discussed the following aspects: secure and reliable networks and computers, secured data, and reliable well-trained people. As possible solutions, he presented the use of firewalls and one-time passwords.

Regarding identity and authentication, he discussed digital signatures and indicated the barriers for implementation, namely, lack of standards, legal structure, and public key infrastructure. As for confidentiality, he discussed encryption and indicated the barriers for implementation in the form of lack of information, trust, and interoperability, as well as concerns about law enforcement and national security.

Regarding verification, he indicated some barriers such as lack of authentication, billing mechanisms, international trademark regimes in cyberspace, and government censorship. As for the final point, the jurisdiction, he indicated that international organizations and self-organized groups may help in this respect.

There were three main themes at the congress. Theme A was concerned with accessing digital information and comprised four sessions:

- Universal access to information highways
- Copyright, intellectual property rights, and fair use
- Multilingualism and cultural diversity
- Security, privacy, and freedom of information

Theme B was concerned with processing digital information and records and comprised three sessions:

- Archiving of digital information
- Reliability and accountability of information through time
- Legal requirements and practices for long-term preservation

Theme C was concerned with preparing our societies for the multimedia environment and comprised three sessions:

- Digital literacy
- Digital literacy partnership: cultural and academic, public and private sectors
- Responsibilities in the Global Information Infrastructure

One of the papers presented in the congress, about the right to communicate, will be briefly presented in the sequel. "The Right to Communicate in the Global Information Society (GIS)" was presented by Don MacLean, chief, ITU (International Telecommunications Union) Strategic Planning Unit. This presentation started with outlining the global recognition of the GIS. Four major events were considered: Geneva, 1992, in which a new purpose for the ITU was outlined that goes beyond the purely technical issues and gives due attention to the political and economic domains so as to promote the use of telecommunications. In the ITU's World Telecommunication Development Conference in Buenos Aires, 1994 , Vice President A1 Gore proposed that nations of the world should cooperate in building the Global Information Infrastructure (GII). The G-7 Information Society Conference was held in Brussels, 1995, which recommended the provision of open access to networks while promoting diversity of content, including cultural and linguistic diversity.

Finally, the Information Society and Development Conference was held in Johannesberg in 1996. In this presentation, the following aspects were discussed: Technology enablers for GIS are digitalization, capacity, and intelligence. The functional characteristics are multimedia, mobile personal, and global. The paper also discussed how the convergence of telecommunications, broadcasting, and computing will have an impact on the GII. He indicated that the installed base included 1.26 billion TV sets, 690 million telephone subscribers, and 200 million PCs. Since the Internet user community is estimated now at 50 million users and is expected to increase to 250 million users by the end of this century, it is essential to also take that into account when discussing the convergence of the above technologies. The presentation also included the terms of reference for a United Nations systemwide global Information System Project as follows:

To specify "the right to communicate" in operational terms.

To analyze current levels of access to basic communication and information services.

To identify opportunities for synergy and coordination, as well as for initiative and innovation.

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Introducing EAMEC's Web Site on the Internet

By Horst Bessai, Chair of ComSoc's Europe, Africa, and Middle East Committee (EAMEC)

With growing participation in electronic networks, the Europe, Africa, and Middle East Committee of the IEEE Communications Society will be experimenting with selected Internet-based communication media during the coming months.

As a first step, we implemented an e-mail group alias (reflector), eamec@info.vub.ac.be, for quick distribution of written messages to all members. Then, starting in December 1996, a new Web site became available, primarily for members of EAMEC. Needless to mention, visits from IEEE student and regular members are highly welcome! Our Web site is accessible (no password required) by starting at

www.comsoc.org/socstr/international.html

and choosing from there the Regional Representative's URL,

www.uni-siegen.de/~nue/eamec/

The EAMEC pages are intended to:

- Introduce the composition of the Committee, its Officers, and National and Technical Representatives (currently more than 60 top-ranking people from academia, telecom industries, research institutions, etc.).
- Show contact information (including postal address, phone, fax, home page, e-mail,...) of EAMEC members and provide direct links to their sites.
- Explain what we are doing by showing our official Charter as approved by ComSoc's International Activities Council (IAC).
- Present details of travel grant programs, especially application guidelines for student or professional travel grants.
- Announce upcoming local conferences and workshops (related to ComSoc activities) to be held within the geographic area of Region 8. Direct links to conference home pages and relevant addresses of bureaus are available wherever possible.
- Attract qualified new members and specify membership requirements.

The larger part of the site is packed with so-called insider information, such as:

- Chair's reports
- Minutes of meetings, action items, deadlines,...
- Conference statistics with details about participation, ranking of contributions/accepted papers per country
- Agendas and announcements of upcoming meetings

Note that this section covers only GLOBECOM and ICC activities. Again, there are several Internet links to these events. For each of our major international conferences a list of accepted papers will be prepared for inspection as soon as the data become available from the Technical Program Committees.

The third communication vehicle is still in a less well-defined state. Plans are being made to conduct Internet phone conferences using the "Speak Freely" software package. All you need to participate in one of these meetings is a soundcard/headset combination. The software can be downloaded (no charge!) from a Swiss server at

www.fourmilab.ch/speakfree/

More technical details and operational guidelines are yet to be discussed.

To summarize, EAMEC will continue to test and exploit all kinds of Internet-based communication resources. We appreciate your feedback. If you want to serve as a volunteer, why not join one of our next EAMEC meetings? They are regularly being held twice per year in connection with both GLOBECOM and ICC. Your active participation, inputs and comments are always welcome. I am sure you will enjoy the networking opportunities with colleagues and leaders in your special field of work.

For more information you may contact me at:

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(Jacques Kevers also reports on EAMEC, page 3 of this GCN.)

Attend DRACOMM 2050 in Transylvania!

By Doug Zuckerman
Director of Meetings and Conferences

It may sound batty, but if ComSoc is truly successful in its globalization efforts, we may actually see a future ICC or GLOBECOM in Transylvania, mythical home of Count Dracula. ComSoc is committed to making it easier for larger numbers of people (and vampires) to become aware of forthcoming conference hosting opportunities, as well as of the criteria and process for submitting proposals. What are some of the things to think about before deciding to "go for it"? Some general considerations are:

- Industrial base — Are there local companies willing to provide support to augment that done by volunteers?
- IEEE membership base — Are there enough volunteers willing to actively pull together the conference?
- Sponsorship — Which local professional societies or organizations will be cosponsoring the event with Comsoc?
- Local facilities (varies by conference) — Are there hotel or convention center facilities available that will meet requirements for the conference program as well as housing for attendees?
- Funds transfer — Can funds be readily transferred to the United States (where IEEE is headquartered)?
- Tax structure — What is the VAT situation and are there other tax requirements unique to the hosting country?
- Customs — How hard is it to get exhibits and technical material through customs?
- Transportation — What are the main airline and other gateways, and how easy is it to reach the conference from other parts of the world?
- Exhibits — How many companies are likely to exhibit at the event?
- Political and diplomatic issues — Are there serious problem areas, if any?
- Financial arrangements — Will the percentage of surplus to risk sharing for ComSoc be in line with the norms?
- Attendance predictions — What is the likely attendance by geographic region, and how does it compare with the norm for previous events?

More specific city selection criteria are also available, and address things like perceived attraction of location, ease of access, reasonable costs, climate, cultural attractions, special insurance needs, visa limitations of prospective attendees, electrical system compatibility, labor union regulations, sense of group identity, facility ambiance, and so on.

Someday soon, we expect about half of our members to be from outside North America; increasingly, that's where we will be holding our conferences.

Want more information on hosting DRACOMM '50 in Transyslvania in the year 2050? Or even in your country in the year 2000? If so, please contact Tom Stevenson at IEEE ComSoc headquarters:

t.stevenson@ieee.org

+1-212-705-8249; fax +1-212-705-7865

The IEEE ComSoc European Operations Corner

By Jacques Kevers, Brussels

Conferences

The following conferences were contacted by the Brussels office, and agreed to distribute Communications Society membership forms and information, as well as ICC '97 advance programs:

- The National Radio Science Conference, Cairo University, March 23–25
- The International Conference on Antennas and Propagation, Heriot Watt, University of Edinburgh, April 14–17
- ICASSP '97, Munich, April 21–24

About 750 copies of the ICC advance program were distributed.

The Brussels office will attend the Conference on Integrated Optics & Optical Communications/European Conference on Optical Communications (IOOC/ECOC '97), to be held in Edinburgh, Scotland on September 22–25, 1997. More details about this conference can be found on the Comsoc Web Site,

http://www.comsoc.org/confs,

which is linked to the original conference's Web page at

http://www.iee.org.uk/LSboard/majconf.htm.

There will be a ComSoc desk displaying the usual membership information, as well as a range of IEEE books related to the topics of the conference.

EAMEC

The Brussels office provides support to EAMEC, maintaining, for instance, an e-mail reflector for its members. EAMEC is the Europe, Africa and Middle East Committee of the Communications Society. Its members form a strong network of top-ranking executives from industry, academia, research centers, government agencies, consultants, and others from Region 8 (i.e., Europe, Africa, and the Middle East). Professionals who are members of the IEEE Communications Society are always welcome to join the committee. Its Web page can be visited at

http://www.uni-siegen.de/~nue/eamec/.

In addition to information on composition and activities of the committee, this Web page provides details on student and professional travel grants, student membership awards, and upcoming IEEE ComSoc conferences and workshops. As for ICC, a list of accepted papers is made available. It is quite likely that for European visitors, consulting this list will be easier than through the U.S.-based site. A link to the home page of IOOC/ECOC '97 was also set up.

Distinguished Lecturer Tour

By request of the Paris chapter, who wished to have a Distinguished Speaker on network management, other chapters were contacted to organize a DLT in March. Both the Poland and Slovenia chapters expressed interest. This made possible the organization of a DLT. The Paris chapter was also provided with a mailing list containing all French members of the Communications Society. The speaker for this event was Dr. Salah Aidarous, and the proposed subject was "TMN Implementation and Evolution Directions: A North American Perspective." The talk covered the state of the art of TMN implementation, distribution of functionality between network and system vendors and service providers, the impact of new computing technologies on TMN and its evolution to support distributed management, and examples of TMN application to network and service management.

Any other chapters interested in organizing such events within Region 8 can contact the Brussels office.

Contact details for the office are as follows:

IEEE ComSoc European Operations Centre
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Telekom Malaysia and SBC Buy into Telkom South Africa

By Robin M. Braun, South Africa

The South African government has finalized the sale of a 20 percent stake in Telkom to U.S.-based SBC International and Telekom Malaysia which will net the state US$1.26 billion and lead to the delivery of 2.8 million lines over five years.

The Communications Minister said that Telkom would also commit almost US$12 billion in capital expenditure over five years, almost doubling its current program. The consortium has formed a partnership called Thintana Communications. The terms of the agreement make provision for expansion targets for the network: the delivery of 2.8 million new lines; the delivery of 120,000 new pay phones; and replacing 1.25 million analog lines with digital lines.

The main points of the new telecommunications regulatory regime that was formulated as the Telecommunications Act of 1996 in October are as follows:

- Full regulated competition within six years. That implies an additional full network provider by that time.
- Phased-in competition in various areas during that period. This includes customer premises equipment and value-added networks.
- The establishment of a very exciting human resource development regime that would be funded from the license fees of the network providers.

In the international context, South Africa is about medium, with a teledensity of 9.5 telephones per 100 people. However, the distribution of service across the country is very uneven. The government aims to double teledensity, while evening out the distribution of service. The priority areas would be underserviced provinces, with KwaZulu-Natal and the Eastern Cape receiving more than half the new lines in the first year. The Northern Province would see the greatest increase in telephone density over five years. Other priority customers were educational and medical establishments, libraries, local authorities, and 3200 villages with between 100 and 2000 people.

The Minister said that there would be a strong focus on training, with the consortium committing a further US$0.31 billion to Telkom's training program, bringing the total training budget to US$0.5 billion over five years — a 150 percent increase in the current budget.

He said that with the aid of the consortium, Telkom planned to position itself as the primary international hub on the African continent for telecommunications. "The successful conclusion of the transaction is one of the final steps in the timely implementation of a policy framework which will transform the telecommunications sector in this country," he said.

Southwestern Bell International president James Myers said his company believed strongly in the South African government's goals for extending services to its people. "We look forward to being an integral part of that process," he said.

Telekom Malaysia corporate strategy vice president Sham Manickam said the organization was excited about the opportunity. "It will represent Telekom Malaysia's largest overseas investment."

A Boost to the Telecom Industry in Singapore

By K. R. Subramianian, Singapore

Singapore has embarked on building an islandwide intelligent network. Singapore ONE — One Network for Everyone — is the plan to develop a nationwide high-capacity network to deliver a broad range of multimedia services to homes as well as the public and private sectors. It is an integral part of the IT2000 vision to create an intelligent island by the turn of the century. The Singapore government has launched a $100 million grant scheme to share the cost of development projects with the telecommunications industry. The scheme is intended to encourage the local telecommunications industry to upgrade their network infrastructure and enhance their technological capability. Under the scheme, a grant of up to 50 percent of a project's qualifying costs will be given to companies to cover funding for selected capital investments, manpower, equipment, software, consumables, and training expenses related directly to the project. A statement from the Telecommunication Authority of Singapore (TAS) says that it will not make any claim on the intellectual property rights or royalty payments from the recipients.

The TAS development grant will support projects that "encourage technology transfer by foreign companies." It will also promote collaboration between local companies, universities, and research institutes on strategic technologies which have good potential for commercial applications. The TAS has signed memoranda of understanding with the National University of Singapore and the Nanyang Technological University for R&D collaboration.

A Research Investigation in Singapore

Using cellular phones is not likely to fry your brains, says a study from the Nanyang Technological University (NTU). Last April, British and American scientists questioned the safety of using cellular phones after reports in such publications as *The Sunday Times* of London prompted worries about possible clusters of concentrated electromagnetic waves affecting phone users. The NTU study has found that using cellular phones heats up a user's head by no more than 0.15 degree Celsius. It cites guidelines laid down by the IEEE which state that electromagnetic waves generating heat equal to 0.25 degree Celsius or less are negligible as a health hazard. Dr. Lu Yilong , Senior Lecturer in the School of EEE, says that most of the electromagnetic waves from a mobile phone are found in the telephone antenna. The waves are absorbed by the parts of the human head closest to the phone. These parts would then heat up very slightly, but any such temperature rise would be dissipated quickly by the normal flow of blood to the head. Associate Professor Goh Lee Gan from the Department of Community, Occupational and Family Medicine at the National University of Singapore said that these low-power waves, and the slight warming of the human tissue as it absorbs them, were not known to have any side effects on mobile phone users. He added that people should avoid contact with the antenna while the phone was in use.

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www.comsoc.org/pubs/gcn

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TETSUYA MIKI
Chapters Corner

A publication of the
IEEE Communications Society

Introduction of the Communications Software Technical Committee

By M. Kajiwara
Chair, Communications Software Technical Committee

Communications software is a key technology to promote a networked information society. Therefore, it is very important for the communications software to be advanced in the aspects of productivity, usability, reliability, and maintainability. The Communications Software Technical Committee provides a forum to get together those interested in advanced communications software, to discuss recent hot topics on the communications software and to organize conference sessions, workshops and/or tutorials.

Recently we have sponsored conference sessions, workshops, and tutorials on advanced telecom software design technologies, intelligent network, object-oriented software technologies, software for the GII, software reliability and maintainability, and so on.

Our Technical Committee consists of people from industries, governments, and academia all over the world. We have our regular meetings during ICC and GLOBECOM sponsored by IEEE ComSoc.

We welcome to our committee those who have interests in, and want to volunteer to contribute to, the committee activities mentioned above. The Web page can be visited at

www.ieee.org//comsoc/commsoft.html/.

(Continued from page 1)

To develop policy and action guidelines for use by UN personnel at the global, regional and country levels.

For more information on the "Right to Communicate" see the ITU home page at

www.itu.int.

For information about the INFO-ETHICS congress contact the following home page:

www.unesco.org/cii/ethicala/progeng.html.