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# Global Communications Newsletter

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January 2002

## *New Year's Message*

*By Nelson L. S. da Fonseca, Editor*

The advancements in science and technology in the 20th Century have provided a fuller and more prosperous life to mankind. In particular, advancements in telecommunications and information technology allowed people from all corners of the world to share information, ideas, and dreams. These advancements shape the way we live in all facets of life such as entertainment, education, health, and commerce. We expect tremendous growth in all these areas with a further increase in network capacity as well as a whole spectrum of new multimedia applications.

At the beginning of the 20th century, the telegraph was already established, and technology development was still needed to provide telephony services on a large scale. Nonetheless, progress could not rely solely on men such as Morse, Bell, and Marconi. Professionals felt the need to associate themselves to overcome the complexity of new technological challenges. In this vein, the American Institute of Electrical Engineers (AIEE) and the Institute of Radio Engineers (IRE) were founded in 1884 and 1912, respectively. In 1963 the Institute of Electrical and Electronics Engineers (IEEE) was created by the merger of IRE and AIEE. The IEEE Communications Society (ComSoc) has its roots in the Professional Group of Communications of IRE, and ComSoc was created in 1952. ComSoc has today more than 51,000 members.

A series of events to celebrate ComSoc's 50th anniversary will happen during 2002. There will be two major celebrations: one at ICC 2002, New York, and the other at Globecom 2002, Taipei. An IEEE Communications Magazine special issue will be dedicated to the publication of selected papers that had paramount importance in the advancement of the communications field.

ComSoc has been positioned squarely in the center of explosive growth in communications technology — technology that fundamentally enabled the second half of the past century. ComSoc has played a major role connecting researchers, professionals, and students in a fast changing world, allowing debate and dissemination of high-quality research results to a large worldwide audience.



*Nelson Fonseca*

For the past several years, ComSoc has successfully been implementing a globalization process intended to increase members' participation from all over the world. One of the results of this globalization process is the Global Communications Newsletter (GCN). GCN publishes ComSoc-related articles and articles about telecommunications. ComSoc-related articles discuss ComSoc structure and activities, and are normally supplied by ComSoc officers and volunteers. Articles about telecommunications focus the attention of the ComSoc community on communications issues in a specific country or region of the world. These articles are intended to make the world a common place for ComSoc members. I would like to make it clear that the value of articles in this category is the dissemination of information about the status of telecommunications worldwide.

Over the past years there has been an increase in the number of submissions from the open call. We welcome your participation! Contributions can be sent in either plain ASCII or MS-Word format. Articles should be no longer than 1500 words, and may contain pictures. Areas of interest are:

- National and regional developments in communications technology and services
- Communications research and development around the world
- Trends in regulatory and legal matters
- Market trends
- Science and engineering education
- Standards
- ComSoc chapter activities

Contributions can be sent to [gcn@comsoc.org](mailto:gcn@comsoc.org) or to [nfonseca@ic.unicamp.br](mailto:nfonseca@ic.unicamp.br). Moreover, I would like to mention that GCN would not be possible without the hard work of its regional correspondents and Algirdas Pakstas, GCN associate editor. Joe Milizzo, publication manager, and Carole Swaim, senior administrator, play a major role in GCN's success.

Last but not least, I would like to wish all GCN readers a healthy and fruitful 2002!

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# ***EAME Regional Chapter Chairs' Congress***

## ***Trevor Clarkson, Chairman of EAME Board***

### ***Jacob Baal-Schem, Region 8 Communications Chapters Coordinator***

Over two years ago, the Board of Governors of the IEEE Communications Society agreed to begin a series of Chapter Chairs' meetings to improve the communication between Chapters and the Society. The Society provides a wide range of member services that can help Chapters to better serve their members. Regional Chapter Chairs' Congresses (RCCCs) have been held in each of the major IEEE geographical zones, the most recent being the Region 8 or EAME (Europe, Africa, Middle East) RCCC, which was held June 11-12, 2001, during ICC 2001 in Helsinki. The Helsinki meeting was actually the third meeting of Communications Chapters Chairs in Region 8. The two former meetings were organized by Region 8, and held in London and Florence. At the Helsinki meeting, the Region 8 Committee was represented by Director Levent Onural, Chapters Coordination Committee Chair Josef Modelski, and Communications Chapters Coordinator Jacob Baal-Schem.

The meeting in Helsinki lasted one and a half days, starting on Monday and ending with lunch on Tuesday.

#### ***Attendance***

Those invited to the RCCC were all Chapter Chairs and certain Communications Society staff, including the President and some Vice Presidents. In some cases, the Vice Chair or another officer of a Chapter attended in place of the Chapter Chair. At the time, there were 33 Chapters in the EAME Region, and 26 intended to participate in the meeting. Due to changing circumstances, only 21 Chapter Chairs eventually attended the RCCC.

Attendees included Trevor Clarkson (EAME Director and U.K. Chapter), Roberto de Marca (ComSoc President), Celia Desmond (Director, North America Region and President-Elect), Doug Zuckerman (VP Membership Development), Byeong Gi Lee (Director, Membership Development), Horst Bessai (VP Membership Services), Levent Onural (Region 8 Director), Carole Swaim (ComSoc), John Pape (ComSoc), and Jack Howell (ComSoc). From the Chapters were Luc Vandendorpe (Belgium), Rossitza Goleva (Bulgaria), Jan Simsa (Czech Republic), Matti Latva-Aho (Finland), Ramesh Pyndiah (France), Athanasios Kanatas (Greece), Adam Livne (Israel), Francesco Vatalaro (Italy), Steinar Andresen (Norway), Andrzej R Pach (Poland, Krakow), Michael Pioro (Poland, Warsaw), Vjacheslav Shuvalov (Russia, Novosibirsk), Oleg Stoukatch (Russia, Tomsk), Dimitry Tkachenko (St. Petersburg), Sall Karr (Saudi Arabia), Marko Jagodic (Slovenia), Francisco-Javier González Serrano (Spain), Erdal Panayirci (Turkey), Yuri M. Poplavko (Ukraine), and Djordje Paunovic (Yugoslavia).

We also welcomed Jacob Baal-Schem and Jozef Modelski, who represented IEEE Region 8.

#### ***Program***

Presentations were given about the EAME Region, IEEE, and ComSoc, membership services, ComSoc staff and their responsibilities, regional events and support, and ComSoc membership programs.

There were a few open sessions at which the topics of volunteer issues for Chapters, ComSoc support for Chapters, formats for successful Chapter activities, and topics for future GCCCs and RCCCs were discussed.

Most of the Congress was devoted to getting acquainted with the services available to Chapters, from both the Society and the Section and Region. ComSoc President-Elect Celia Desmond (who becomes Society President January 1, 2002) presented an overview of the Communications Society, the

second largest Society in IEEE, with over 51,000 members worldwide, 20 percent of which live in Region 8. Celia, Trevor, as well as Vice Presidents and officers of ComSoc introduced the participants to support available from the Society to its Chapters: grants to attend conferences, Distinguished Lecture Tours, Chapter funding for activities, free periodicals, and more. Carole Swaim, the ComSoc staff person who diligently organized this event, provided information on how to contact officers and staff in ComSoc.

Region 8 Chapters Coordination Chair Josef Modelski emphasized in his presentation the Chapters activities in the Region. Chapters are the focus of technical activities and conference initiation, and are getting strong support from the Sections and the Region. ComSoc Chapters Coordinator Baal-Schem mentioned that the number of ComSoc Chapters has grown to 34 (from 13 in 1993 and 26 in 1999) and that ComSoc membership in the Region has grown from 10 percent of total membership in 1985 to the actual 20 percent of total Communications Society members. We have in the Region 25 percent of all Chapters of the Society. These Chapters are very active, and have held Seminars and Conferences in Hungary and Russia (including the Internet Conference in Moscow), as well as participated in Regional Conferences. Several National Societies have sister agreements with ComSoc. All these activities are performed in good cooperation with the Communications Society.

Several sessions were devoted to preparing recommendations on future programs, and provided additional opportunities for interaction and discussions among participants. Among the recommendations: show the value of ComSoc for professionals and students; ComSoc to provide a certification program for engineers; set up a mechanism to bid for a Conference at the Chapter site; joint Chapter activities (as inviting another chapter for a visit); organize local workshop at Regional Conferences; and provide incentives to retain volunteers.

The main conclusions were that to recruit committee members, personal contact is the only way. National Societies, where these exist, are a useful means of obtaining volunteers, and there is a need to plan ahead in order to replace officers every two years.

New members are mainly obtained at the student member level. Multiple copies of IEEE Communications Magazine can be made available by ComSoc for distribution in order to attract new members.

Retaining members is essential since it is less costly to communicate with existing members than to publicize ComSoc to potential members. Clearly, both elements need to be present in our membership strategy if we wish to see our membership numbers increase. Existing members could be kept active through a lively seminar program, employer involvement (where the benefits of membership are recognized by the employer), and regular follow-up.

For Chapter publicity, a leaflet is available that shows the value of ComSoc membership for professionals and students. E-mail lists or address lists can be provided by ComSoc as well as the local IEEE Section.

A number of formats were suggested for Chapter activities such as topical lectures on mobile phone hazards, optical networking, IP networks and beyond, 3G, Bluetooth, e-commerce, WAP, GPRS and security; joint activities with other Chapters or national societies; free student lunches followed by a seminar; key industrial speakers; organizing company events; local workshops and conferences, with awards made by the Chapter or a company; and employment seminars.

Opportunities exist in universities for a Chapter to sponsor

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# IEEE Communications Society

## Committee on Network Operations and Management (CNOM)

By Salah Aidarous, U.S.A, Carlos Westphall, Brazil, and Fernanda Silveira, Brazil

**C**NOM provides the IEEE Communications Society with a focus on network and service operation and management. This represents a key business drive for successful service/network providers in the current competitive environment.

CNOM actively encourages the exchange of information on the operational and technical management aspects of public and private networks for voice, data, image, and video. Also organizes and sponsors publications and discussions of these topics. The specific technical interests include:

**Business Drivers.** The current widespread deregulation and unprecedented technological advances have created many challenges to service providers and made them move from a technology-driven to a business-driven model. Currently, service/network providers are focusing on changing their operations environment to drive their business.

**Service Management.** The recent events, in telecom world, demonstrated that providing services and their management solutions is the real competitive edge in communications today. Operators often tend to approach service management from a service perspective (i.e., they work to ensure that the underlying network is reliable and delivers the required quality of service, QoS, end to end). As more and more networks are involved in the delivery chain, this approach may become very costly. New approaches examined involving information systems. This area needs collaboration between telecommunication systems and information systems.

**New Generation Operation Systems and Software.** Effectiveness, prompt service delivery, operation cost reduction, process reengineering; these are just a few of the aspects related to the automation of network operations. Attention shall be posed in the process of automation to the risk of sclerotizing the management through the shift of procedures from human to computers: as needs and technology evolve, the systems supporting and controlling the management rapidly become "legacy" and may make further evolution sluggish, costly, and difficult.

**Real-Time Management of Networks.** Relates to the variety of problems of managing resources to exploit the network capabilities. Hot issues are bandwidth management and the management of Internet traffic.

**Customer Network Management and Control.** Outsourcing is in full upswing. The issue of customer network management also includes the aspects of management systems deployed on the customer premises allowing the customer to manage locally and the virtual network offered by network providers.

**Management in a Deregulated Environment.** The Telecommunications Act is reshaping the rules of telecommunication around the world. New challenges are appearing. This area includes the aspect of end-to-end service management across several jurisdictional boundaries. The service level agreement (SLA) is becoming key element in defining responsibilities between different service providers to ensure quality of service insurance.

**Enterprise Network Management.** Enterprises are more and more based on a networking of their resources, and more and more vital business information and processes are intertwined with communications networks.

This area includes intranet as well as extranet management.

**Network Operations Architecture.** As transport networks become a commodity, the competitive edge for an operator is

more and more tied to its capabilities in effective operations. Process reengineering is up in the list of priorities for large network operators.

**Hot Technologies for Network Management.** New technologies deriving from the explosion of Internet, such as Java, and the evolution of information technology, such as intelligent agents, promise interesting new approaches and solutions to management challenges.

Other areas of interest:

- Distributed Systems and Applications Management
- New Enabling Management Platforms (CORBA, DCOM, Java, etc.)
- Using the Web for Management
- Management Tools and Applications
- Integration of Network Control and Management
- Network Design Tools and Capacity
- Planning Active Network Management
- Intelligent Agent Technology
- Interoperability and Cooperative Control
- Management of the Internet, Intranets and the Web
- Management of Electronic Commerce
- Management of Mobile Systems and Networks
- Personal Communications Services Management
- Multimedia and Telecommunication Service Management
- Information Models
- Policy-Driven Management
- Monitoring, Event and Fault Handling
- Quality of Service Management
- Security Management
- Open Network Control Standards
- Frameworks and Issues: OSI, SNMP, TMN, TINA, ODP, and so on
- Case Studies and Experiences
- User and Service Profile Management
- Human Factors, User Interfaces, and Virtual Reality for Management
- Management of Cable Networks and DTH
- Broadcast Networks
- Management of Voice over Packet Management of Data-centric and Converged Networks
- AI Techniques for Network Management
- OSS Interconnection Management
- Internet Traffic Engineering and Shaping

CNOM stimulates and participates in interdisciplinary conferences (sessions, panels, tutorials), workshops, publications, and standards activities, and offers leadership and support to ComSoc in progressing its own use of network/service operations and management. It represents a good environment to promote dialog among end users, providers, manufacturers, and individuals with interest in these areas.

CNOM sponsors ComSoc's Network Operations and Management Symposium (NOMS) and IFIP Working Group 6.6, International Symposium on Integrated Network Management (IM). It also sponsors several international workshops: Distributed Systems Operations and Management (DSOM), Asia Pacific Network Operations and Management Symposium (APNOMS), and Latin America Network Operations and Management Symposium (LANOMS).

The current CNOM officers, for 2000–2002, are Salah Aidarous (Chair), J. Scott Marcus (Vice Chair), and Carlos Westphall (Secretary). Please see <http://www.lrg.ufsc.br/cnom> for more information.

# Forming a ComSoc Chapter in Rio de Janeiro

By José A. Apolinário Jr. and Rosângela Coelho, Brazil

The suggestion of forming the Rio de Janeiro Chapter first came from Dr. Marcello de Campos, Latin America Regional Director, who was persuasive enough to motivate us in starting this crusade.

The first step was the Chapters Manual reading. The manual was very clear and, well, picking up some signatures on a petition and submitting it to the Section Executive Committee should not be that hard. However, the section Starting New Chapters couldn't highlight the challenges we faced later. The real challenge was indeed to convince people that the Chapter's activities were something cool.

After this initial homework, the approval from the IEEE came quite fast, in May 2001. We then entered the mailing list of Carole Swaim and Kathy Worthman — and we felt, for the first time, we were part of the team! The next step was the first election, and the only candidates, us, were elected. Prof. Mauro Assis, from the Brazilian Military Institute of Engineering (IME), our institution, joined us as Chapter Secretary-Treasurer.

Despite the natural beauties of Rio that could somehow impair fast e-mails replies, this time it worked well; the electronic election took no more than two weeks, and we were finally elected as the Executive Committee of the Rio de Janeiro Chapter. At that time we were so eager to start working that we answered the Chapter questionnaire applying for financial support the very same day.

The first social event, a lunch where all members were invited — several times! — was a complete success. This success, thank God, was not measured in terms of number of participants but came as some very kind words pronounced by our President, Roberto de Marca, who remarked on the sig-

nificance of the formation of a Communications Society Chapter in Rio de Janeiro, wished for approximately 10 years.

Then came the first technical meeting, a lecture entitled "The Future of the Future" as part of the DLT program. For this particular lecture we were very proud of the big audience of more than 50 people. Of course, the merit must all be dedicated to Dr. Roberto Saracco for his brilliant lecture. We suggest that readers visit the Telecom Italia Lab (former CSELT) homepage at <http://www.tilab.com> and see the "disappearance of telecommunications."

Let's talk about another interesting result. Thanks to the Chapter's activities, we established some closed contacts with the Getúlio Vargas Foundation (FGV) (the MBA guys). Getting acquainted with this class of professionals, generally more involved in business administration than in engineering, we figured out that they were actually becoming very interested in communication matters (a hot topic!). These folks formed part of Dr. Saracco's audience. Moreover, after the first DLT, we received e-mails from about 35 people interested in ComSoc activities. We felt like doing good homework, embracing one of the most notorious duties of a chapter: bringing new members to our Society.

We are now arranging the second DLT and also constructing the Chapter's homepage. In short, we should say that the formation of the chapter was worth mentioning as a challenge and that we have till now gathered the experience to enhance the activities of the Rio de Janeiro Chapter. Our primary goals for the near future are improvement of social activities, an increase of members effectively participating in our activities, the organization of Brazilian lectures, and our commitment to jointly work with our Brazilian Sister Society, the Sociedade Brasileira das Telecomunicações (SBrT) in organizing its main technical event, the Brazilian Symposium in Telecommunications in Rio de Janeiro, 2003.

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a Student Project Prize, the best-performance undergraduate prize, and travel prizes (to IEEE/ComSoc events).

ComSoc supports free half-year membership programs. In addition, Chapters should advertise effectively beyond the e-mail list of their members. The RCCC also made some recommendations for new or revised programs for further consideration, all of which imply some financial support, and these are prioritized as follows:

Student support programs: modify the regional assessment especially for younger members in low-income countries; stronger advertisement of the graduated dues program; paper prizes, project prizes, Ph.D. support, a student paper contest, and summer schools.

Joint Chapter activities: invite an in-Region Chapter to a two-day meeting that may include social activities to make it attractive to other family members, and industrial visits. This could lead to long-term collaboration between the Chapters.

Local EAME workshops: provide support for MELECON, EUROCON, and AFRICON with ComSoc workshops (called ComSoc8); provide travel grants and/or subsidized conference registrations.

Incentives to retain (senior) volunteers: by means of subsidized dues and travel grants; representatives in university departments should be appointed; and make effective use of retired members.

Those who attended the RCCC in Helsinki were enthusiastic about the RCCC and ComSoc's support for it. They look forward to future RCCC and GCCC events.

Further information about the RCCC can be found at: <http://crg.eee.kcl.ac.uk/comchap/eame.html>

## Global Communications Newsletter

[www.comsoc.org/pubs/gcn](http://www.comsoc.org/pubs/gcn)

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