IEEE STANDARDS BEARER

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WHAT'S INSIDE.....

IEEE

SPAsystem™: *The First Year*

by Jay Iorio

The Standards Process Automation System (SPAsystem) is offering a growing collection of services for developers and users of IEEE standards and standards-related information. With 1994 as the first full year of the SPAsystem's development, staff has increased in size; the overall specification and description of the SPAsystem has been shaped and refined; new services have come online; technical exchanges with other standards-developing organizations and a broad range of users around the world have become part of our daily routine; and the services of the next few years have begun to take form.

One of the goals of the SPAsystem is to create all text as part of a full-text database amenable to a variety of searching and navigation techniques by authors and users. Prerequisites to that goal are to define the structure of the information itself and to finesse the authoring process to create the information in a database-ready form as automatically as possible. Such a structured database model will have major effects on the ways in which the information can be delivered, used, and reused. SPAsystem staff have spent a good part of the past year modeling this information in various ways using Standard Generalized Markup Language (SGML), which is the central in-house data format for the SPAsystem.

In addition to defining the "information space," staff have been setting up the means of access. We now maintain anonymous ftp (file transfer protocol), Gopher, and World Wide Web servers on the Internet, as well as a traditional electronic bulletin-board system available via modem. All these services offer public access to a broad range of information, and working groups can be set up with password-protected access to special areas of the bulletin board and the ftp server for exchanging a variety of materials. Electronic-mail reflector services are also available to IEEE groups and committees. These basic services constitute a foundation for the developing SPAsystem as new services are added. ◆

SPAsystem Q&A

As developments progress on the SPAsystem, an increasing number of questions are being asked by potential users. This column addresses some of the fundamental and frequently asked questions.

What is the SPAsystem?

Think of the SPAsystem as a communications environment for standards development and dissemination rather than as a static system. The SPAsystem integrates available open architecture tools and techniques to automate the standards-development and dissemination processes. As new tools become available, they can be incorporated into the system. What the SPAsystem is for you will depend on what you want to do within the environment.

Who uses the SPAsystem?

Many different kinds of users will be accommodated by the SPAsystem. Primarily, it is intended for the authors of standards drafts and documents; the technical editors who prepare the standards for publication; and those involved in balloting, reviewing, and commenting on draft standards.

(Continued on page 2)

Letter from the editor's desk

Dear Readers,

In this issue we begin answering the many questions we've received about the Standards Process Automation system, or SPAsystem. As we promised in the last issue, you'll read an update on the first year's progress on the front page. You'll also find answers to some of the most frequently asked questions about the SPAsystem.

The concept of the SPAsystem stretches beyond the borders of IEEE Standards. As the system evolves, we want to make sure that the technology is shared with other organizations that can use it. Thus, Standards is participating in a high-level effort by the American National Standards Institute (ANSI) to develop a network that will link hundreds of standards-developing organizations (SDOs) (see article on back page). Openness, a key concept in the voluntary standards process, applies to the exchange of electronic information as well. The SPAsystem provides an approach to automation that is consistent with the philosophy of the standards program itself.

While the SPAsystem is young and evolving on a daily basis, automation is not a new concept at IEEE Standards. The article on automated balloting (back page) features an automated service that, over the past few years, has quietly revolutionized the way many ballots are done. In addition to providing an automated way to send out ballots, tally them, and summarize results, this service can almost guarantee accurate and consistent results. As balloting groups increase in size, this service becomes even more vital.

The diversity of standards subjects and concerns is evident in this issue. Jonathan Morell and S. L. Stewart present a provocative look at best practices for standards development; Joe Cascio discusses environmental issues and their impact on standards; Mary Lou Padgett and her colleagues bring the Neural Networks Council (NNC) to IEEE Standards; and Anne O'Neill looks at the GATT treaty and its effects on voluntary standards. Clearly, there is increasing awareness of the criticality of standards and the standards process throughout the world, and especially in areas involving information technology. We'll try to keep you up to date on these issues in addition to automation, and we'll discuss how they will affect you as technology progresses.

Kristin Dittmann
Editor-in-Chief
k.dittmann@ieee.org

SPAsystem

(Continued from front page)

Virtually anyone who creates or uses standards and related technical information will be accessing the SPAsystem.

What need does it meet?

Namely, fast, flexible, and affordable communication among those involved in standards and technical information work without regard to computer platform and software package.

When will it become available?

Parts of the SPAsystem are already available. Information such as the IEEE Bylaws, the standards publications catalog, and staff directory are online and available via the Internet or modem. In addition, some working groups have set up private areas for drafting standards and e-mail reflectors for bulletin board and file transfer purposes.

How do I get onto the SPAsystem?

There are two paths, based on whether you are a modem or Internet user. For ftp, Gopher, and World Wide Web, you must be on Internet. All you need is a computer or networked terminal, a modem, and/or Internet connection and communications software to access the SPAsystem.

For dial-up via modem, to access the bulletin-board service:
Dial 908-981-0290 for 2400 bps **OR**
908-981-0035 if over 2400 bps.
Type "guest" at the login prompt.
No password is required.

From Internet:
stdsbbs.ieee.org [140.98.1.11]
Type "guest" at the login prompt.
No password is required.

For World Wide Web, use the URL below:
http://stdsbbs.ieee.org:70/0/pub/ieeestd.htm
To acquire your own account, contact Bob LaBelle, at (908) 562-3826 or r.labelle@ieee.org

STANDARDS IEEE **BEARER**

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Voluntary Standards Tackle Environmental Issues

by Joe Cascio

A relatively recent development in the international environmental scene is the increasing reliance of organizations and public institutions on private sector, consensus, and voluntary standards to address environmental goals. Until recently, the dominant construct for environmental protection in the US and many other countries was defined by legislation complemented by governmental regulations that were enforced through surprisingly punitive measures. Voluntary standards achieve their credibility first, by virtue of the participation of stakeholders with contrasting (and even opposing) interests, and second, through third-party registration or other mechanisms that show proof of conformance.

Environmental Labeling

Voluntary environmental standards have been most prominent in the product labeling area, where labels denote environmental preferability. The criteria for awarding such labels is developed through more or less consensus procedures involving major stakeholders. One related standard being developed by Technical Committee 207 of the International Organization for Standardization (ISO) aims to specify a process for labeling organizations that create product criteria for labeling. Of interest to computer manufacturers, the German "Blue Angel" labeling program has recently developed criteria for "environmentally friendly personal computers." The criteria favors products with potentially long service life, recyclable parts, and reusable components. Additionally, the control unit must be of modular design, the monitor must meet Swedish limits for electric and magnetic fields, and the manufacturer must have a product take-back program. Another standard being developed by TC 207 will guide organizations in self-declaring the environmental aspects of their products.

Environmental Design

In another development, the International Electrotechnical Commission (IEC) is working on an environmental guide that alerts standards writers in the electronics field to the environmental ramifications of their standards. It introduces life cycle assessment (LCA) and design-for-environment (DFE) concepts and provides information on using product environmental impact assessment (EIA) programs. It also gives useful hints on such topics as fastening and joining, decorative paints and finishes, design for materials recyclability, and design criteria/concepts for plastic parts. The IEC guide will complement the more generic guide being drafted for all standards writers by ISO/TC 207. Both guides are slated for publication in 1995.

Environmental Management

The environmental management standards (ISO 14000) being developed by ISO/TC 207 represent a new class of standards that address management systems rather than products or technical subjects. The ISO 14000 management, auditing, and performance evaluation documents will be published over the next two or three years and will establish a new benchmark for demonstrating commitment to environmental protection. It is expected that being registered to ISO 14000 will be a condition for doing business in certain countries and that major organizations will demand the same from their suppliers. Conformity assessment is likely to occur through third-party registrars, and this in itself, perhaps more than the requirements of the standard, will have significant impact on the rigor of companies' environmental protection activities. The medium (third-party registration) may turn out to be the real message of ISO 14000.

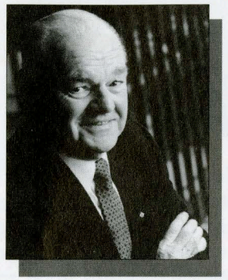
Interestingly, there is discussion about integrating the ISO 14000 standard as a requirement in the "Common Sense" program administered by the EPA. The EPA's Common Sense program is the latest in environmental initiatives that have targeted the electronics industry among a group of seven for a sectorial approach. The eyes of the environmental standards world are on ISO 14000 right now. The ramifications of this standard for industry management programs, industry credibility, and third-party oversight, as well as trade competitiveness, are real and very significant.

These developments are consequential for all industry sectors. They show the rise of voluntary standards to complement the governmental regulations that are still in place and not going away anytime soon. Their impact will be positive, as it engages affected parties in constructive, voluntary approaches to dealing with critical environmental issues and may even lead to more trade and enhanced productivity. ◆

Joe Cascio is the Program Director for Environmental, Health, and Safety Standardization at the IBM Corporation. He holds the chairmanship on the US Technical Advisory Group to ISO Technical Committee 207, which is developing international environmental management standards.

Customer Service 800 Number for Ordering Standards

The toll free number for individuals ordering standards is 1-800-678-IEEE. The new number for institutions wishing to order standards on an account basis is 1-800-701-IEEE.



MESSAGE FROM THE CHAIR

by Wallace S. Read

Well, I guess my prediction of "sweltering in the summer heat" wasn't far off the mark. Certainly we had our share of it in the Northeast this summer. But it's Labor Day weekend now. There is a little nip in the night air, the kids are preparing to return to school and IEEE is getting back in gear with its conferences and seemingly endless series of meetings. The call to duty is hitting us all.

By the time you read this, we may even have put behind us that most mysterious of nights that kids and adults share alike—All Hallows Eve. Halloween, with its witches and goblins and pumpkins, may be fantasy, but it allows us a little comic relief as we slip quietly out of the autumn season into the shorter days of winter. The cry of little voices shouting "trick or treat?" might even have a deeper meaning for us when we sit back and contemplate this year's endeavors and plan for yet more in 1995.

As you peruse this issue of the *IEEE Standards Bearer,* you will read about the progress we are making with our major project, the SPAsystem. I hope the information is enough to convince you that the only "trick" involved in this effort is the magic of the Standard Generalized Markup Language (SGML) and that the "treat" will be when we truly are able to work in a paperless publishing mode. The emphasis on timely, first-class standards has never been greater. We must take the witchcraft out of the process and truly make it a treat for our members to make their contribution.

Don Loughry, the Vice Chairman of the Standards Board, and his Advisory Committee, have been maintaining a watchful eye on the progress of this work. The Staff Project Team is moving steadily ahead with the implementation plan and on the communications and fundraising fronts, John Rankine and Andy Salem are visiting with those industry heads who are interested in partnering with us in this project. That's a top level-effort in anybody's terms.

If you haven't been contacted and would like to know more about the SPAsystem and what it can do for you, Jerry Walker at (908) 562-3823 (e-mail: j.t.walker@ieee.org), or Harriet Heaney at (908) 562-3847 (e-mail: h.heany@ieee.org) would be more than happy to answer your queries.

Hold forth in all you do. I am told there is a reward for you, if not in this world, surely the next. ◆

Best Practices for IT Standards Development—Toward Discovery and Application

by Jonathan A. Morell and S. L. Stewart

In July of 1993, the National Institute of Standards and Technology (NIST) and the Industrial Technology Institute (ITI) conducted a workshop to identify best practices for the development of standards for information technology (IT). The workshop took a life cycle view of standards, starting with early assessment of needs and ending with the commercialization of standards-compliant technologies. Since the workshop, there has been much informal conversation concerning how to implement best practices.

Implementation requires knowing more about the standards process, and ensuring the dissemination of knowledge to the standards community. This effort requires organized activity, backed by funding and acknowledged legitimacy. Less important than proposing a specific solution is facilitating a process that encourages creative thinking about approaches to issues. As such, discussion should begin without preconceived answers to the following critical questions:

- What existing organizations and people should be involved?
- Are any new organizational structures required?
- Should there be one "center of activity," or many?
- If many, how should they be coordinated?
- What about funding mechanisms?

While no specific answers to these questions are proposed, there are some functional requirements for any solution:

- Training courses and workshops based on valid knowledge and best practices must be developed and delivered.
- Results of research and bench-marking activity must be disseminated.
- Standards experts from diverse activities must be able to share knowledge openly.
- Training and dissemination activities do not have to be self-sufficient, but they should generate enough funds to cover some of their costs.
- Tests of the application of best practices to standards must be facilitated in real-world settings and their results disseminated.
- A research agenda must be generated with enough credibility to interest funding agencies and potential researchers.
- The system must facilitate the discovery of three important attributes of information: *research, best practice,* and *craft knowledge.*

Research: Standards, the standards process, and the relationship between standards and product commercialization should be explored. As examples, consider these questions: How do standards-setting efforts affect product-development plans among vendors? What methods work for discovering real user needs?

Best practice: Many examples illustrate how, both within and without the standards community, there are underutilized best practices that could improve standards making. As an example, consider how research and practice in the field of conflict resolution have produced many powerful approaches to resolving conflict in highly charged settings.

Craft knowledge: There is considerable value in the expertise of people who have been steeped in standards activities. Although it is inherently unsystematic, craft knowledge is subjected to testing, experimentation, and improvement. Efforts are needed to subject craft knowledge to examination and experimentation.

This discussion is only a beginning. Our intent is to facilitate consensus on an action plan for improving the process of setting standards for information technology. Readers are invited to send comments to Jonathan Morell, who will collate responses and send a synopsis via regular or electronic mail to those who request one.

Copies of the entire Workshop Proceedings, priced at $10, can be obtained from: ITI, P.O. 1485, Ann Arbor, MI 48106 or via ftp: ftp.cme.nist.gov/pub/mei/sdit. ◆

Jonathan A. Morell is the Principal Member of Technical Staff at ITI. S. L. Stewart is a computer scientist at NIST. Readers are invited to send thoughts and comments to Jonathan Morell via fax at (313) 769-4064 or via e-mail, jam@iti.org.

Awards Spotlight

Two IEEE Standards Medallions were awarded in the past quarter. **David L. Boneau** was presented with the award at the July Summer Power Engineering Society meeting, and **Paul E. Stuckert** was awarded the Medallion at the Instrumentation & Measurement Society meeting.

The IEEE Standards Board formally congratulates the Chairs, Vice Chairs, Co-chairs, and Technical Editors listed below as well as their working groups on the publication of their standard, interpretations, or collection.

Sid Bennett, Chair, **Bruce Youmans,** Editor: *528-1994,* IEEE Standard for Inertial Sensor Terminology

W. E. Reid, Chair; **Brian Furumasu,** Chair: *824-1994,* IEEE Standard for Series Capacitors in Power Systems

Sanford Wagner, Chair; **W. Kenneth Dawson,** Technical Editor; **Louis Costrell,** Secretary: *960-1993/1177-1993,* IEEE Standard FASTBUS Modular High Speed Data Acquisition and Control System *and* IEEE FASTBUS Standard Routines

Steinar J. Dale, Chair of Working Group *5-12*; **Frank Y. Chu,** Chair of Moisture Task Force; **Philip C. Bolin,** Member; **Rusko Matulic,** Member: *1125-1993,* IEEE Guide for Moisture Measurement and Control in SF_6 Gas-Insulated Equipment

William Byrd, Chair; **Robert Bratton,** Co-chair: *1138-1994,* IEEE Standard Construction of Composite Fiber Optic Overhead Ground Wire (OPGW) for Use on Electric Utility Power Lines

Keith A. Petty, Chair; **Kent Brown,** Vice Chair: *1185-1994,* IEEE Guide for Installation Methods for Generating Station Cables

John R. Bareham, Chair; **Glenn R. Hess,** Vice Chair and Technical Editor; **Fred Dekalb,** Secretary: *1206-1994,* IEEE Standard Methods for Measuring Transmission Performance of Telephone Handsets and Headsets

Cindy Wright, Chair: *1228-1994,* IEEE Standard for Software Safety Plans

William M. (Mitch) Bradley, Chair; **David Kahn,** Vice Chair; **John Rible,** Draft Editor: *1275-1994,* IEEE Standard for Boot (Initialization Configuration) Firmware: Core Requirements and Practices

John S. Morris, Chair; **Paul Rabin,** Co-technical Editor; **Bob May,** Co-technical Editor; **Hide Horiuchi,** Secretary: *1295-1993,* IEEE Standard for Information Technology—X Window System—Modular Toolkit Environment (MTE)

A.J. Molnar, Chair: *1303-1994,* IEEE Guide for Static var Compensator Field Tests

David E. Carlson, Chair: ISO/IEC *8802-2 : 1994,* Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part *2*: Logical link control

David V. James, Chair: ISO/IEC *13213 : 1994* (IEEE Std *1212, 1994* Edition) Information technology—Microprocessor systems—Control and Status Registers (CSR) Architecture for microcomputer buses

John McDonald, Chair: *C37.1-1994,* IEEE Standard Definition, Specification and Analysis of Systems Used for Supervisory Control, Data Acquisition, and Automatic Control

Russell Minkowitz, Chair: *C57.98-1993,* IEEE Guide for Transformer Impulse Tests

R. B. Robertson, Chair: *C57.12.44-1994,* IEEE Standard Requirements for Secondary Network Protection

INTERPRETATIONS

Andrew Josey, Vice-Chair, *1003.1/2003.1/INT, October 1994 Edition,* IEEE Standards Interpretations for IEEE Std *1003.1-1990* and IEEE *2003.1-1992*

COLLECTIONS

Leonard Tripp, Special Contributor: *Software Engineering Standards Collection, 1994 Edition*

John E. Flynn, Chair, *Pole Line Hardware Standards Collection, 1994 Edition*

STANDARDS
Profiles

GEORGES VAILLANCOURT

Georges Vaillancourt is the Transformers Committee Standards Coordinator. A native of Quebec, Canada, Georges is a Senior Researcher at the Research Institute of Hydro-Quebec (IREQ), which boasts the largest High-Voltage Laboratory in North America.

Q: What is the first standards project that you ever worked on?
A: I joined the Transformers Committee in 1980. In 1981, I starting work on developing my first standard, IEEE Std C57.113 [IEEE Guide for Partial Discharge Measurement in Liquid-Filled Power Transformers and Shunt Reactors]. In 1992, I was recruited by the Chair and Executive Committee as the Committee Standards Coordinator.

Q: What is the most difficult aspect of standards work?
A: As a Standards Coordinator, I am responsible for keeping an eye on at least 100 standards. When I first started this position, I was handed a database, which I've modified for efficiency.

Q: Why did you choose to participate in IEEE?
A: IEEE is one of the most technically advanced and knowledgeable organizations. Working with IEEE is stimulating.

Q: Since you are a resident of Canada, do you think Canadian members are well represented in IEEE?
A: Yes. I believe 10% of members attending the Transformers Committee meetings are Canadian. IEEE is also active in Canada. There are also a good number of Canadian members in PES that have highly responsible positions.

Q: What is your favorite type of food?
A: I prefer French cuisine in France. In France, food is regarded with utmost importance and the best chefs in the world can be found there.

Q: What is your favorite vacation spot?
A: Gasbé Peninsula in Quebec. This is where I was born, and I go back there with my family every summer for vacation. It is a special spot since it represents going back to my roots. I have three brothers and many other relatives who still live there.

Q: When I'm not doing standards, I like to...
A: Spend time with my family. I enjoy being a family man. I see my three children often and I have one grandson. My children, ages 23, 25, and 29, often come to my house for long discussions on every subject. Also, the lab in which I work, the High-Voltage Laboratory, is one of the largest and best in the world. I like to have people from all over the world visit me, and they enjoy visiting the lab.

Q: When I'm doing standards, I like to...
A: Be left alone. I'm the kind of person that will take one thing on at a time.

Q: What lessons have you learned from your participation in standards?
A: If you have a goal in mind, and pursue it long enough, you'll always reach it. ◆

JASON ZIONS

A Senior Software Engineer at HaL Software Systems, Jason Zions is the Chair of the IEEE 1003.8 Working Group, POSIX Transparent File Access. He is the Chair of two subcommittees under the PASC Sponsor Executive Committee as well.

Q: Which standard is your favorite and why?
A: I have two. The ANSI Paper Standard and the ISO Standard for Speed Limit Signs, which, by the way, is observed only in Finland. These two are my favorites because they show that the best thing about standards is that there are so many to choose from.

Q: What is your favorite aspect of standards-development work?
A: The people I work with. PASC's adaptation of the old airline pilot's joke is "Four times a year we leave our families and return once again to the bosom of our loved ones."

Q: Why did you get involved with POSIX/PASC?
A: I want to facilitate the goal of buying anything from anyone and having the pieces work together.

Q: What is your favorite hobby?
A: Just one? Being a jazz musician (I play the saxophone) and photography.

Q: When I'm doing standards, I like to...
A: Argue. And, help people see the entire range of what is possible.

Q: When I'm not doing standards, I like to...
A: Still argue!

Q: The most memorable standards meeting I ever participated in was...
A: The Danvers POSIX meeting, which was the climax of the Graphical User Interface (GUI—pronounced gooey) wars. Basically, it was a standards battle between two vendor groups who wanted their GUI to be the sole IEEE GUI standard. The end result was PASC did not sponsor either of them. Over time the marketplace selected the GUI, which was then standardized. The most intriguing part was standards committee members acting in the best interest of the industry instead of their employers.

Q: What lessons have you learned from your participation in standards?
A: First, It pays to know Robert's Rules of Order. Second, if you have to resort to Robert's Rules, you are already in trouble. Third, people are important. ◆

Recent IEEE Standards Publications

AEROSPACE AND ELECTRONIC SYSTEMS

528-1994 IEEE Standard for Inertial Sensor Terminology (ISBN 1-55937-415-2) [SH16972-NXF] $43.50

COMMUNICATIONS

1206-1994 IEEE Standard Methods for Measuring Transmission Performance of Telephone Handsets and Headsets (ISBN 1-55937-424-1) [SH17301-NXF] $45.00

COMPUTER

1228-1994 IEEE Standard for Software Safety Plans (ISBN 1-55937-425-X) [SH17319-NXF] $42.00

1275-1994 IEEE Standard for Boot (Initialization Configuration) Firmware: Core Requirements and Practices (ISBN 1-55937-426-8) [SH17327-NXF] $87.00

1295-1993 IEEE Standard for Information Technology—X Window System—Modular Toolkit Environment (MTE) (ISBN 1-55937-387-3) [SH16956-NXF] $65.00

8802-2 : 1994 (ISO/IEC) Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 2: Logical link control (ISBN 1-55937-392-X) [SH94215-NXF] $85.00

13213 : 1994 (ISO/IEC) (IEEE Std 1212, 1994 Edition) Information technology—Microprocessor systems—Control and Status Registers (CSR) Architecture for microcomputer buses (ISBN 1-55937-448-9) [SH94220-NXF] $60.00

NUCLEAR AND PLASMA SCIENCES

960/1177-1993 IEEE Standard FASTBUS Modular High Speed Data Acquisition and Control System *and* IEEE FASTBUS Standard Routines (ISBN 1-55937-396-2) [SH17046-NXF] $67.50

POWER ENGINEERING

824-1994 IEEE Standard for Series Capacitors in Power Systems (ISBN 1-55937-441-1) [SH17509-NXF] $43.00

1125-1993 IEEE Guide for Moisture Measurement and Control in SF_6 Gas-Insulated Equipment (ISBN 1-55937-432-2) [SH17400-NXF] $45.00

1138-1994 IEEE Standard Construction of Composite Fiber Optic Overhead Ground Wire (OPGW) for Use on Electric Utility Power Lines (ISBN 1-55937-422-5) [SH17285-NXF] $44.00

1185-1994 IEEE Guide for Installation Methods for Generating Station Cables (ISBN 1-55937-443-8) [SH94214-NXF] $45.00

1303-1994 IEEE Guide for Static var Compensator Field Tests (ISBN 1-55937-447-0) [SH94217-NXF] $49.50

C37.1-1994 IEEE Standard Definition, Specification and Analysis of Systems Used for Supervisory Control, Data Acquisition, and Automatic Control (ISBN 1-55937-429-2) [SH17350-NXF] $53.00

C57.12.44-1994 IEEE Standard Requirements for Secondary Network Protectors (ISBN 1-55937-430-6) [SH17368-NXF] $49.00

C57.98-1993 IEEE Guide for Transformer Impulse Tests (ISBN 1-55937-399-7) [SH17079-NXF] $52.00

INTERPRETATIONS

IEEE 1003.1/2003.1/INT, October 1994 Edition IEEE Standards Interpretations for IEEE Std 1003.1-1990 and IEEE 2003.1-1992 (ISBN 1-55937- 449-7) [SH94219-NXF] $49.50

COLLECTIONS

Software Engineering Standards Collection, 1994 Edition (ISBN 1-55937-442-X) [SH94213-NXF] $124.50

Pole Line Hardware Standards Collection, 1994 Edition (ISBN 1-55937-444-6) [SH94216-NXF] $80.00

NATIONAL ELECTRICAL SAFETY CODE

National Electrical Safety Code (NESC) Preprint 1997 Proposals (ISBN 1-55937-436-5) [SH17491-NXF] $40.00

STANDARDS PRESS

Open Systems Handbook: A Guide to Building Open Systems (ISBN 1-55937-435-7) [SP117-NXF] $69.00

High-Performance I/O Bus Architecture: A Handbook for IEEE Futurebus+ Profile B (ISBN 1-55937-440-3) [SP109-NXF] $65.00

High-Performance I/O Bus Architecture: A Handbook for IEEE Futurebus+ Package [Includes High Performance I/O Book (Profile B), IEEE Std 896.2-1991, IEEE Std 896.2a-1994, and Futurebus+ Handbook *by J. Theus*] (ISBN 1-55937-446-2) [SP1093-NXF] $204.00: IEEE Member Price: $163.50. *No other discounts apply.*

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For more detailed status information, call *(908) 562-3800* or e-mail stds.info@ieee.org.

Neural Networks, Fuzzy Logic, Evolutionary Computing, and Virtual Reality Standards

Mary Lou Padgett, Auburn University
Neural Networks Council Standards Committee Chair and Neural Networks Standards Chair

Hamid Berenji
NASA Ames Research Center
Fuzzy Systems Standards Chair

Rao Vermuri, Lawrence Livermore National Laboratory
Evolutionary Computation Standards Chair

Richard Blade, University of Colorado at Colorado Springs
Virtual Reality Standards Chair

IEEE members all over the world have requested extensions of the scope of existing standards projects to provide better communications and international cooperation in the areas of Neural Networks, Fuzzy Systems, Evolutionary Computation, and Virtual Reality. These exciting new technologies have progressed to the point that the development of glossaries and performance measure methodologies are needed to facilitate progress in real world applications. Recent IEEE NNC conferences in Beijing, China and Nagoya, Japan and the World Congress on Computational Intelligence in Orlando, Florida have sponsored panels on international language and

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IEEE STANDARDS BOARD ACTIONS

APPROVED PARs FOR NEW STANDARDS

P802.3v (C/LM) Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Informative Annex for Support of 150 Ohm Cables in 10 BASE-T Link Segment

P802.14 (C/LM) Standard Protocol for Cable-TV Based Broadband Communication Network

P1003.1h (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX)—Part 1: System API Extensions—Services for Reliable, Available, and Serviceable Systems (SRASS) [C Language]

P1003.1i (C/PA) Standard for Information Technology—Portable Operating System Interface (POSIX)—Part 1: System Application Program Interface (API)—Amendment: Technical Corrigenda to Real-time Extension [C Language]

P1398 (SCC31) Standard Method of Data Communications Between a Utility and a Customer End-Device Using Radio Frequency (RF) Networks Medium

P1399 (SCC31) Standard Method of Data Communications Between a Utility and a Customer End-Device Using a Power Line Carrier (PL) Network Medium

P1403 (PE/SUB) Guide for Gas-Insulated Substations vs. Air-Insulated Substations

P1404 (SCC32) Guide for Microwave Design, Procurement, Construction, Maintenance, and Operations

P1405 (PE/SWG) Guide for Testing Metal-Enclosed Switchgear for Internal Arcing Faults

P1406 (PE/IC) Guide to the Use of Gas-In-Fluid Analysis for Electric Power Cable Systems

P1407 (PE/IC) Guide for Accelerated Aging Tests for Medium-Voltage Extruded Power Cables Using Water-Filled Tanks

P1498 (C/SE) Standard for Information Technology—Software Life Cycle Processes—Acquirer–Supplier Agreement

P2003.5 (C/PA) Standard for Information Technology—Test Methods for Measuring Conformance to IEEE 1003.5-1992 (Ada)

PC62.34 (PE/SPD) Standard for Performance of Low-Voltage Surge-Protective Devices (Secondary Arresters)

REVISED PARs

P802.2c (C/LM) Standard for Logical Link Control Conformance Requirements

P1220 (C/SE) Standard for Application and Management of the Systems Engineering Process

P1299 (PE/IC) Guide for the Connection of Surge Arresters to Protect Insulated, Shielded Electric Power Cable Systems

PARs FOR STANDARDS REVISIONS

P167A (COM/TRANSYSCOM) Standard Facsimile Test Charts

P378 (IM/HF&IM) Standard for Scattering Coefficient Measurement

P383 (PE/NPE) Standard for Qualifying Class 1E Electric Cables and Field Splices for Nuclear Power Generating Stations

P741 (PE/NPE) Standard Criteria for the Protection of Class 1E Power Systems and Equipment in Nuclear Power Generating Stations

P751 (PE/T&D) Guide for Wood Transmission Structures

P837 (PE/SUB) Standard for Qualifying Permanent Connections Used in Electric Power Substation Grounding

P1028 (C/SE) Standard for Software Reviews and Audits

PC37.20.2 (PE/SWG) Standard for Metal-Clad Switchgear

PC37.59 (PE/SWG) Standard Requirements for Conversion of Power Switchgear Equipment

PC37.123 (PE/SUB) Guide to Specifications for Gas-Insulated Electric Power Substation Equipment

PC62.42 (PE/SPD) Guide for the Application of Component Surge-Protective Devices for Use in Low-Voltage (Equal to or Less Than 1000 Vrms or 1200 Vdc) Circuits

WITHDRAWN PARs

P812 (SCC26) Definition of Terms Relating to Fiber Optics

P1040 (SCC26) Graphic Symbols for Fiber Optic Devices

P1081 (PE/NPE) Application of IEEE Std 730 to Nuclear Power Generating Stations

P1102 (SCC26) Standard for Fiber Optic Transmission System Loss Budget

P1103 (SCC26) Methodology of Optical Transmission System Measurements

P1104 (SCC26) Standard Methodology of Fiber Dispersion Measurements and Definitions

P1105 (SCC26) Optical Power Measurements in Optical Fiber

P1111 (SCC26) Optical Switching

P1136 (SCC26) Unguided Light Optical Systems

P1167 (SCC26) Optical Test Instruments—Optical Variable Attenuator

P1168 (SCC26) Optical Test Instruments—Optical Wavelength Measurement Set

P1169 (SCC26) Optical Test Instruments—Optical Fiber Profile Measurement Set

P1170 (SCC26) Optical Test Instruments—Optical Time Domain Reflectometer (OTDR)

P1171 (SCC26) Optical Test Instruments—Chromatic Dispersion Test Set

P1172 (SCC26) Optical Test Instruments—Light Source and Power Meter

P1236 (SCC26) Recommended Practice for Performance Measurement Criteria of Fiber Optic Transmission Systems for Voice, Video and Data

APPROVAL OF NEW STANDARDS

802.9 (C/LM) Standard for the Integrated Services (IS) LAN Interface at the MAC and PHY Layers

1143 (PE/IC) Guide on Shielding Practice for Low-Voltage Cables

1149.1b (C/TT) Supplement to Standard Test Access Port and Boundary-Scan Architecture (IEEE Std 1149.1)

1275.1 (C/BA) Standard for Boot (Initialization Configuration) Firmware—IEEE 1754 ISA

1275.2 (C/BA) Standard for Boot (Initialization Configuration) Firmware—IEEE 1496 (SBus) Bus

*__1333__ (PE/IC) Guide for Installation of Cable Using the Guided Boring Method

1351 (C/PA) Standard for Information Technology—OSI Application Program Interfaces—ACSE and Presentation Layer Application Programming Interface—Language Independent Specification

1353 (C/PA) Standard for Information Technology—OSI Application Program Interfaces—ACSE and Presentation Layer Application Programming Interface—C Language Binding

*__C62.38__ (PE/SPD) Guide on Electrostatic Discharge: ESD Withstand Capability Evaluation Methods (for Electronic Equipment Subassemblies)

REVISED STANDARDS

259 (PE/TR) Standard Test Procedure for Evaluation of Systems of Insulation for Specialty Transformers

277 (IA/CI) Recommended Practice for Cement Plant Power Distribution

379 (PE/NPE) Standard Application of the Single-Failure Criterion to Nuclear Power Generating Station Safety Systems

429 (PE/EM) Recommended Practice for Thermal Evaluation of Sealed Insulation Systems for AC Electric Machinery Employing Form-Wound Pre-Insulated Stator Coils for Machines Rated 6900 V and Below

835 (PE/IC) Power Cable Ampacity Tables

*__979__ (PE/SUB) Guide for Substation Fire Protection

980 (PE/SUB) Guide for Containment and Control of Oil Spills in Substations

*__C37.011__ (PE/SWG) Application Guide for Transient Recovery Voltage for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis

C37.34 (PE/SWG) Standard Test Code for High-Voltage Air Switches

C37.41 (PE/SWG) Standard Design Tests for High-Voltage Fuses, Distribution Enclosed-Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories

* Final approval subject to all Standards Board conditions being met.

C62.36 (PE/SPD) Standard Test Methods for Surge Protectors Used in Low-Voltage Data, Communications, and Signaling Circuits

REAFFIRMED STANDARDS

281 (PE/PSC) Standard Service Conditions for Power System Communication Equipment

517 (AES/GAP) Standard Specification Format Guide and Test Procedure for Single-Degree-of-Freedom Rate-Integrating Gyro

529 (AES/GAP) Supplement for Strapdown Applications to Standard Specification Format Guide and Test Procedure for Single-Degree-of-Freedom Rate-Integrating Gyro

596 (NPS/NI&D) Standard Parallel Highway Interface System

622 (PE/ED&PG) Recommended Practice for the Design and Installation of Electric Heat Tracing Systems for Nuclear Power Generating Stations

622A (PE/ED&PG) Recommended Practice for the Design and Installation of Electric Pipe Heating Control and Alarm Systems for Power Generating Stations

622B (PE/ED&PG) Recommended Practice for Testing and Startup Procedures for Electric Heat Tracing Systems for Power Generating Stations

635 (PE/IC) Guide for Selection and Design of Aluminum Sheaths for Power Cables

675 (NPS/NI&D) Standard Multiple Controllers in a CAMAC Crate

683 (NPS/NI&D) Recommended Practice for Block Transfers in CAMAC Systems

758 (NPS/NI&D) Standard Subroutines for CAMAC

789 (PE/PSC) Standard Performance Requirements for Communications and Control Cables for Application in High-Voltage Environments

1020 (PE/ED&PG) Guide for Control of Small Hydroelectric Power Plants

C57.116 (PE/TR) Guide for Transformers Directly Connected to Generators

✗✗ Errata ✗✗

Note the following corrections for the Standards Board Actions from the July 1994 issue of the *IEEE Standards Bearer:*

The section entitled "Conditions Met" should be changed to "Changes to Approved Drafts Not Yet Published." IEEE Std 1284-1994 was erroneously listed in this section.

IEEE Std 1295-1993, IEEE Standard for Information Technology—X Window System—Modular Toolkit Environment, should have been listed in its place.

New Technology Standards

(Continued from page 7)

symbology, informal luncheons, and brain-storming sessions. The consensus of these events indicates that worldwide interest in the use and study of computational intelligence and virtual reality is growing. The IEEE Neural Network Council (NNC) Standards Committee is working to provide all interested parties opportunities for participation in the formulation of standards.

Currently, balloting groups are being formed for Artificial Neural Networks, Fuzzy Logic, and Virtual Reality. IEEE members and experts from other societies can help with this task. For example, a recent meeting in Zürich initiated cooperative discussions with Toshio Fukuda of Japan and representatives from Germany, Switzerland, Beijing, and the US. Contributions from the UK, France, Mexico, Scandinavia, Singapore, and Israel are among others received or being submitted.

As a much-requested starting point for standards projects in the areas of Neural Networks, Fuzzy Systems, Evolutionary Computation and Virtual Reality, international glossaries are being assembled. The task-oriented design of systems incorporating these computational intelligence capabilities is being encouraged. Potential contributors are requested to take a basic, modular specification strategy and modify it to suit their particular application. Interfacing with related systems is to be suggested. These design and specification strategies will grow into performance measures and cautionary suggestions for applying the technologies being defined. Input from leading researchers in the fields is combined with requests from manufacturers and government agencies to hopefully provide guidance to the development of applications in these areas, which will provide a good foundation and stimulate further growth.

To suggest experts, organizations, or special interest groups to be included in any of the above projects, please contact Mary Lou Padgett, Auburn University, 1165 Owens Road, Auburn, AL 36830; (205) 821-2472 phone; (205) 844-1809 fax; e-mail: m.padgett@ieee.org. ◆

Details of standards activities planned for these conferences and status reports will be posted on the IEEE SPAsystem. Contact Bob LaBelle at r.labelle@ieee.org for details about these listings.

ABBREVIATIONS

AES/GAP	Aerospace & Electronic Systems/Gyro Accelerometer Panel
C/BA	Computer/Bus Architecture
C/LM	Computer/LAN MAN
C/PA	Computer/Portable Applications
C/SE	Computer/Software Engineering
C/TT	Computer/Test Technology
COM/TRAN SYSCOM	Communications/Transmission and Access Systems
IA/CI	Industry Applications/Cement Industry
IM/HF&IM	Instrumentation and Measurement/ Technical Committee 4, High-Frequency
NPS/NI&D	Nuclear & Plasma Sciences/Nuclear Instruments & Detectors
PAR	Project Authorization Request
PE/ED&PG	Power Engineering/Energy Development & Power Generation
PE/EM	Power Engineering Electric Machinery
PE/IC	Power Engineering/Insulated Conductors
PE/NPE	Power Engineering/Nuclear Power Engineering
PE/PSC	Power Engineering/Power Systems Communications
PE/PSIM	Power Engineering/Power System Instrumentation & Measurements
PE/SPD	Power Engineering/Surge-Protective Devices
PE/SUB	Power Engineering/Substations
PE/SWG	Power Engineering/Switchgear
PE/T&D	Power Engineering/Transmission & Distribution
PE/TR	Power Engineering/Transformers
SCC26	Standards Coordinating Committee 26 (Photonics) *Disbanded*
SCC31	Standards Coordinating Committee 31 (Automatic Meter Reading and Energy Management)
SCC32	Standards Coordinating Committee 32 (Intelligent Vehicle Highway System) (IVHS)

The Global Role for PES

What Does GATT Mean for IEEE Standards?

by Anne O'Neill

The *General Agreement on Trade and Tariffs,* known as GATT, is both a treaty and an organization. GATT, headquartered in Geneva, has served as the world's trade police for the past four decades. The governments that are signatories to GATT pledge to use international standards. IEEE standards developers may initially feel some anxiety when they hear this. Where does the pledge leave independent standards-developing organizations such as IEEE? Will IEEE standards be abandoned in favor of International Electrotechnical Commission (IEC) and International Standards Organization (ISO) standards?

The reality is that IEEE standards will continue to be effective and useful in the marketplace. It is important for IEEE standards developers to understand that GATT refers mainly to regulations, and that the major impact of GATT will be on *regulatory* standards, that is, mandatory standards, not on the voluntary standards of IEEE. The *Agreement on Technical Barriers to Trade* is the portion of the GATT that deals with technical regulations and conformity assessment. Even in these areas, according to Suzanne Troje in the Office of the US Trade Representative, "Regulators will still have the right to set their own safety levels." However, voluntary standards bodies will still be affected, most noticeably by a GATT code of good practice that will assure proper notification of standards in development and reporting of corresponding IEC or ISO standards.

The use and development of IEEE standards, both in the US and the rest of the world, will continue, and in many cases be preferred. But the long-term trends will favor international standards, with national standards declining in importance. Canada offers a good example of how the evolution to international standards can progress. Recently the Canadian Standards Association (CSA) adopted 90 IEC standards in particular for conformance mark purposes. This use of IEC standards better prepares Canadians to participate in their maintenance and revision.

There is no decree on how harmonization is to occur in the Power Engineering Society (PES), only that the work toward harmonization itself must begin. The *PES Vision for the Future* paper indicates that "each IEEE/PES committee should compare the contents of existing IEC standards with those of existing IEEE/PES standards to determine similarities and differences. This review work is the responsibility of each Technical Committee's management team to ensure that this work is done."

In many cases, though by no means all, an IEEE standard calls out a higher level of performance than the soon-to-be "GATT-blessed" IEC standard, which offers more of a lowest-common-denominator view of a technical application. Working groups need to evaluate whether or not the IEEE standard meets or exceeds the IEC specifications. The reasons for deviation in the IEEE standard will undoubtedly need to be spelled out during the ballot resolution process if the IEC standards are judged as either too weak or "over-specified." The *Code of Good Practice for the Preparation, Adoption, and Application of Standards,* an integral part of GATT dealing with voluntary standardizing bodies, indicates that such suggestions will soon become practice. Adoption of most of this Code by the IEEE Standards Board would confirm many philosophies that already guide our process and program, and a few points would initiate new responsibilities. It is time that IEEE closely examine this Code and determine how to accommodate it in our standardization process. ◆

Copies of the Code may be obtained via e-mail by contacting Kristin Dittmann (k.dittmann@ieee.org) or by writing to her at IEEE. The Standards Department staff will aid PES working groups in identifying corresponding IEC Standards, and will provide copies of those standards for review. Please call Anne O'Neill at (908) 562-3852 or e-mail her at a.oneill@ieee.org for this service.

Automated Testing and the IEEE POSIX Effort

by James F. Leathrum and Kathy A. Liburdy

Emerging work in the area of automated conformance testing systems may inject a new perspective into the role of testing in the standards-development life cycle. A formal test specification can automatically be translated into a test in a computer-assisted testing environment, removing much of the drudgery and uncertainty involved in a manual approach. A shortened development time for test methods increases the value of testing by providing timely feedback to the standards-development working groups, ultimately enhancing the quality of the standards themselves. The presence of automated testing is becoming increasingly visible.

Work has recently been initiated in the IEEE POSIX effort to develop test methods for the Ada language binding using the Clemson Automated Testing System (CATS). CATS supports the direct translation of assertions written in the CATS specification language into tests. The CATS specification language is based on a formal foundation tempered by input from the POSIX community to yield an English-like language with a natural range of expression. Additional evidence of the growing interest in automated testing systems is the Workshop on Automated Testing Technologies hosted by the National Institute of Standards and Technology (NIST) in the spring of 1994. This workshop reviewed existing and emerging technologies in automated testing and explored the potential impact of such technologies in standards development. The newsletter, *Automated Testing in Open Systems,* tracks the progress of related projects events such as CATS and the NIST workshop. To request this newsletter, e-mail kliburdy@eng.clemson.edu. ◆

James F. Leathrum is a member of P1003.5 (Ada Language Binding). Kathy Liburdy is a member of the Steering Committee on Conformance Testing for IEEE POSIX. Leathrum and Liburdy share the technical editor responsibilities for P2003.5 (test methods for 1003.5).

CALENDAR

OF EVENTS

November

1–2 **Nuclear Power Engineering Committee meeting**
Norfolk, VA
contact—J. E. Thomas
(803) 831-4011

4 *Deadline for draft and PAR submission for December Standards Board meeting*

6–9 **Insulated Conductors Committee meeting**
St. Petersburg, FL
contact—L. J. Hiivala,
Alcatel, Canada Wire,
22 Commercial Road, Toronto,
Canada, M4G 3W1
(416) 467-4158

7 **ANSI Information Systems Standard Board (ISSB) meeting**
ANSI headquarters,
New York City
contact—Stacy Leistner
(212) 642-4931

8 **"The IEC Standards Development Process,"** a panel presentation by Executives of the United States National Committee, Instrument Society of America (1 to 4 pm), Raleigh NC
contact—Charles Zegers,
(212) 642-4964; fax (212) 398-0023

7–11 **LAN MAN Standards Committee meeting**
(Computer Society)
Incline Village, NV
contact—Classic Consulting
(604) 527-1045 or
7230.107@compuserve.com

14 **IEEE Microprocessor and Microcomputer Standards Committee (MMSC) meeting**
(Computer Society) Audio- or videoconference participation is available by prearrangement
contact—Fritz Whittington
(214) 995-0397 or fritz@csi.ti.com

16–20 **Standards Committee on Neural Networks, Fuzzy Logic, and Virtual Reality**
Fort Lauderdale, FL
contact—Mary Lou Padgett
(205) 821-2472 or
m.padgett@ieee.org

17–19 **Design Automation Standards Committee (DASC) meeting**
(Computer Society in conjunction with VHDL International Users Forum [IUF]), Washington DC
contact—Paul Menchini
(919) 990-9506 or
mench@mercury.internet.net

30 **ANSI Electrical and Electronics Standards Board (EESB) meeting,** Washington, DC
contact—Charles Zegers
(212) 642-4964
fax (212) 398-0023

December

1 **US TAG for ISO/IEC JTC 1/SC26**
Dallas, TX
contact—Clyde Camp
Texas Instruments, 2313 Merimac Dr., Plano, TX 75075,
(214) 995-0407

7–9 **US TAG for ISO/IEC JTC 1/SC7**
Houston, TX
contact—Leonard Tripp
Boeing, MS 6H-TW, P.O. Box 3707, Seattle, WA 98124,
(206) 237-5240

8–10 **Standards Committee on Neural Networks, Fuzzy Logic, and Virtual Reality**
Washington, DC
contact—Mary Lou Padgett
(205) 821-2472 or
m.padgett@ieee.org

11–12 **IEEE Standards Board Committee meetings**
Miami, FL
contact—Terry deCourcelle
(908) 562-3807 or
t.decourcelle@ieee.org

11–13 **Standards Committee on Neural Networks, Fuzzy Logic, and Virtual Reality**
Miami, FL
contact—Mary Lou Padgett
(205) 821-2472 or
m.padgett@ieee.org

13 **IEEE Standard Board meeting**
Miami, FL
contact—Terry deCourcelle
(908) 562-3807 or
t.decourcelle@ieee.org

January

9 **IEEE Microprocessor and Microcomputer Standards Committee (MMSC) meeting**
(Computer Society) Audio- or videoconference participation is available by prearrangement
contact—Fritz Whittington
(214) 995-0397 or fritz@csi.ti.com

9–12 **Power System Relaying Committee meeting**
(Power Engineering Society)
Las Vegas, NV
contact—A. T. Giuliante
(914) 347-5166

15, 19 **US TAG for ISO/IEC JTC 1/SC22/WG15**
Seattle, WA
contact—Lorraine Kevra, AT&T, 5A-210, Rts. 202/206 N, Bedminster, NJ 07921 (908) 234-6423

29–Feb. 2 **PES Winter meeting**
New York City
contact—Frank Schink
(908) 276-8847

February

3 *Deadline for draft and PAR submission for March Standards Board meeting*

The IEEE Standards Board Advisory Committee is grateful to Newfoundland's Electric Utility Industry, Newfoundland & Labrador Hydro & Newfoundland Power for sponsoring a reception and dinner for them during their August 6, 1994 meeting.

Automation in the Standards Balloting Process

by Rosemary Tennis

To those groups who use IEEE Standards' automated balloting service, the old days of sending out and calculating ballot results themselves manually might seem to go back to the dark ages. In fact, it wasn't so long ago that IEEE Standards found a way to bring automation to balloting, thus saving participating sponsors from this painstaking, but critical, step in the standards-development process.

Automation of standards balloting evolved out of a growing need. IEEE Standards began providing a balloting service to interested sponsors in 1987. By 1990, the department was conducting 75 ballots a year. By 1991, that number had more than doubled, presenting the department with a workload challenge that required more than an electric envelope opener to solve.

After investigating numerous approaches, staff chose an Optical Mark Reader (OMR) system to aid in the task of processing ballots. A bar code is imprinted on every ballot that identifies the balloter and the project being balloted. After the balloter casts his or her vote and returns the ballot, the OMR reads the bar code and the vote. A ballot summary, which is automatically tallied and generated, is mailed to the sponsor along with all the ballots and comments about two days after the tally is completed. The summary information is stored on the IEEE Standards database.

The standards database is a rich resource of information that is used for much more than balloting. It now has more than 37 000 entries, consisting of the volunteers who contribute to the standards process as well as those who are involved with seminars and other aspects of standards. Once information is entered, many useful reports can be produced.

Soon IEEE Standards will merge this database with IEEE's new database system, which will allow staff to validate membership status more quickly. At some point in the future, invitations will also be scanned, and the balloting group will be electronically entered into the database. ◆

For more information about the service, contact Terry deCourcelle at (908) 562-3807 (e-mail: t.decourcelle@ieee.org)

IEEE Standards Activity in NSSN

On August 18, 1994, the Commerce Department's National Institute of Standards and Technology (NIST) and the American National Standards Institute (ANSI) signed a cooperative agreement to begin the development of the National Standards Systems Network (NSSN). The NSSN is intended to be an electronic standards network that will eventually link the databases of hundreds of standards-developing organizations (SDOs) throughout the US and the world. The NSSN program was developed by the ANSI Standards and Data Services Committee (ANSI SDSC) and its implementation teams, which are comprised of representatives from industry and many of the major SDOs.

IEEE Standards is one of the SDOs that is taking a proactive leadership role in the development of the NSSN. By serving on the SDSC/NSSN Advisory Group; the Standards Development, Maintenance, and Production Implementation Team; the User Needs Implementation Team; and the Team Integration Task Group; IEEE is working hard to ensure that the NSSN becomes a nonproprietary, distributed network through which the SPAsystem and systems like it can openly interchange information. ◆

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