IEEE STANDARDS BEARER

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IEEE

Playing It Safe With Patents

by Michelle Phillips Greene

Since the US Supreme Court ruling on Hydrolevel vs. ASME, standards-developing organizations like the IEEE have gone to considerable lengths to ensure that their standards are developed in an open and balanced environment, free from collusion and antitrust activities. Policies and procedures set forth for standards development have warned committee participants against creating standards that would foster business monopolies or give unfair advantages to one sector of industry.

The issue of referencing patented technology in standards continues to be a concern. Would a standard that includes patented technology favor a certain company, segment of industry, or individual? And would a patentholder have the right to exclude anyone from using his or her patent to implement the standard?

IEEE Standards regularly receives questions like these in regard to its policy on the use of patents in IEEE standards. The following are answers to the questions asked most often.

What is a patent?

Patents, like copyrights and trademarks, afford certain rights to their owners and are protected by Federal law. A patent issued by the US Patent and Trademark Office grants the patentholder the exclusive right to exclude others from producing, using, selling, or licensing an invention or process. The patent, and all rights to it in the US, lasts for 17 years. Patentees may license the right to manufacture their invention or goods based on their technology and seek compensation for such. A patent also affords the patentholder the legal right to bring suit against infringers.

Can patentholders misuse the rights given to them?

In some cases, patent holders have misused the rights afforded to them. One such abuse is requiring licensees to sell the licensed invention at a certain price or level. This is both a patent misuse and an antitrust violation known as price fixing. Other such abuses include establishing discriminatory royalty rates, tying the sale or use of an unpatented product to the sale or use of the patented product, or seeking royalty payments for use of the license after the expiration date of the patent.

Can I use a patented technology when developing an IEEE standard?

The IEEE Standards Board does not prohibit the use of patented technologies in its standards. However, strict policies and procedures for doing so are set forth in the 1994 *IEEE Standards Operations Manual.* Patented technology may only be used when it does not give undue preferred status to a company or segment of industry; the patent represents the best available technology; and the patent is accessible to all in industry on a nondiscriminatory basis at a reasonable cost. In addition, there has to be no coercion of the patent holder to provide the technology nor may adopting such a technology be costly to a substantial part of industry.

What happens if a patentholder will not release his or her patent for a reasonable and nondiscriminatory fee?

IEEE standards developers are obligated to inform the committee of any patents, pending or

(Continued on page 3)

Letter from the editor's desk

Dear Readers,

The difficulties of developing a standard are familiar to most of the people who have ever participated in a standards-writing effort. Sometimes the problem is finding enough participants; sometimes it's maintaining balance in a balloting group; sometimes it's resolving technical conflicts to the satisfaction of a sufficient percentage of participants. Behind all of these issues and many others is the principle of due process.

Even the full cognizance of standards developers of the importance of due process—establishing procedures, making them public, and following them—isn't always enough to guarantee success. The issue of patents, featured in the cover article, is affecting increasing numbers of standards projects and has the potential to negate a conscientious effort unless the standards developer understands the ramifications of patentholders' rights on the standard. This article provides some basic, but crucial, information for standards developers. The IEEE Standards Board has set up a committee to review patent issues in standards, and any developments will be reported in this newsletter.

We are introducing a new column in this issue, "The Global Role for PES [the Power Engineering Society]" (see page 5). In the first column, Anne O'Neill explains some of the differences between IEEE and the International Electrotechnical Commission (IEC) and how IEEE members can have a voice in IEC activities. This information is applicable to standards participants in any field, but is particularly significant to any groups who have not yet pursued international recognition for the standards work. Anne's role is part of PES's concerted effort to become involved with IEC in the most effective way possible for standards.

This issue of the *Standards Bearer* also brings the first of what we expect will be many articles dealing with standards and the "Information SuperHighway" (see *Windows to...*, page 10). Jim Isaak, acting chair of a new Standards Coordinating Committee on the Information Infrastructure (I.I.), writes that "The challenge for standards forums at all levels is to work together to deliver a coherent environment for the I.I." Many different standards from various fields can be a part of that coherent environment. For some views on additional standards trends of the future, see the forum discussion on page 6.

Coming in the next issue will be a complete update on the first year of the Standards Process Automation system (SPAsystem™). If you'd like us to consider your specific questions, please contact me by phone at (908) 562-3830 or by e-mail at k.dittmann@ieee.org.

Kristin Dittmann
Editor-in-Chief

Now You Can Fax PARs!

PARs may now be filed with the IEEE Standards office via facsimile. When faxing a PAR, the cover sheet must be addressed to Rona Kershner, NesCom Secretary. Immediately following the fax transmission, the original must be mailed to the NesCom Secretary. The IEEE Standards fax number is (908) 562-1571. Rona may be reached at (908) 562-3808.

Bylaws and Operations Manual Available

The 1994 editions of the *IEEE Standards Board Bylaws* and the *IEEE Standards Operations Manual* are now available. The Bylaws cover the rules that govern IEEE Standards, while the *Operations Manual* details the policy and procedures of IEEE standards development. The 1994 editions include the latest changes to IEEE standards procedure as approved by the IEEE Standards Board in December 1993. Some subjects that have been revised this past year include supplements, organizational representatives, trial-use standards, and Standards Coordinating Committees. To receive your free copies of the *Bylaws* and *Operations Manual*, contact Theresa Steenweg at (908) 562-3836 or t.steenweg@ieee.org.

STANDARDS BEARER

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The IEEE Color Books—Practical Guides for Engineers

by Valerie Zelenty

The new edition of the Red Book, *IEEE Recommended Practice for Electric Power Distribution for Industrial Plants* (IEEE Std 141-1993), is in print thanks to years of effort from the Red Book Working Group. This book is an essential guide relied upon by industrial engineers to answer electrical design questions. This is the seventh edition of the Red Book, which was first introduced in 1945 and is the granddaddy of all the Color Books. When the first edition became known by the nickname "Red Book" for the color of its cover, a precedent was established for the IEEE Color Books series, which now encompasses ten published books related to industrial and commercial power systems.

Bill Moylan

At the May 1994 IEEE Industrial and Commercial Power Systems (I&CPS) Technical Conference, Bill Moylan, the chair of the Red Book Working Group, described the Red Book as a ready source of information for a variety of engineering applications. Plant engineers consult the book to understand the fine points on which to focus when their facility is undergoing a system expansion. Owners of small businesses will be more knowledgeable when they interview consultants that they wish to retain for projects. When problems come up (for instance, if an overvoltage is suspected), the Red Book serves as a reference. "A reader can become a better engineer just by browsing through the book," says Moylan.

The Series

The Color Books series is designed to be an up-to-date and comprehensive library of information on industrial and commercial power systems design. Because each subject is covered by a different book in the series, the books can be most effective when used together. Shan Griffith, the lead instructor of the I&CPS Color Books Seminar, past chair of the Brown Book, and a participant in a number of Color Book working groups, suggests that taking the seminar provides engineers with one of the most efficient ways of benefitting from the series. The seminar gives the attendee a three-day overview of what information can be found in the Color Books and how that information can be applied in the workplace. (The next seminar will be held in conjunction with the IEEE Petroleum & Chemical Industry Technical Conference [PCIC], September 8–10.)

Shan Griffith

Griffith feels that the Red Book, Gray Book (IEEE Std 241-1990, *IEEE Recommended Practice for Electric Power Systems in Commercial Buildings*), and Green Book (IEEE Std 142-1991, *IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems*) make "particularly good tutorials for young engineers to familiarize themselves quickly with the technology associated with industrial and commercial power systems." He suggests that young engineers look through the Color Books to see what subjects are covered, and then make a more intense study of those chapters that are of immediate interest. He also points out that the Color Books are "a great aid in understanding the practical application of other ANSI and IEEE standards."

The White Book (IEEE Std 602-1986, *IEEE Recommended Practice for Electric Systems in Health Care Facilities*), provides a valuable source for experienced electrical engineers who find themselves working for the first time in a hospital. Hugh Nash, the chair of the White Book Working Group, is a supervisor in an engineering firm. He refers the young engineers in his firm to the White Book often, suggesting they use it topically, or for what he calls "just in time" learning.

(Continued on page 9)

Patents

(Continued from cover page)

granted, that are included in the developing standard. Once identified, the committee must evaluate the technical merit of including them, and the chair must obtain a statement from the patentholder. Failure to obtain an agreement to provide the patent for a reasonable and nondiscriminatory fee could result in the end of the standards project.

Who determines what is reasonable and nondiscriminatory?

The interpretation of what is reasonable and nondiscriminatory is the decision of a court of law and not the responsibility of the IEEE. However, the IEEE Standards Board Patent Committee reviews cases in question and determines the best course of action.

Does the IEEE license the patents found in its standards?

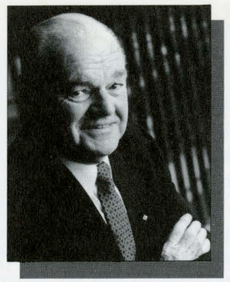
No. Those persons wishing to implement a patented technology found in an IEEE standard must contact the patentholder directly for a license grant. The IEEE Standards Department requires that all known owners of patented information found in its standards submit a "letter of intent" before the standard is approved and published. Such letters state that the patentee is willing to license his or her technology to any persons wishing to comply to the IEEE standard without seeking compensation or at least offering the license for a reasonable fee.

Who can I contact for more information about patents and the law?

For questions about including patented technology in IEEE standards, please contact Michelle Phillips Greene at (908) 562-3804.

As standards move ahead with changing technology, patents are likely to affect standards in many different areas. The IEEE Standards Board recognizes the need for a careful balance between the legal rights of patentholders and the need for standards to be accessible and open. Patent issues may be thorny, but understanding the rules and following them will provide the greatest protection to standards developers who must wrestle with them. ◆

Michelle Phillips Greene is the Administrator of Intellectual Property for the IEEE Standards Department.



Message From The Chair

by Wallace S. Read

Somehow we need to get the contributions to the Standards Bearer more in phase with the publication schedule—editor Kristin's deadlines are so out of step with nature. This message had to be written with the breath of spring in the air but for an audience who will no doubt be sweltering in summer heat while reading it. I feel somewhat like the old fisherman who, when asked about the benefits of daylight saving time, said, "It makes no difference to me. I go to bed with the sun and I get up with the sun. You fellows in the city can call it whatever you want." So let's pretend it is still spring.

In the parks and gardens, this is the season that brings new life and renewed hope as every tree, plant, and flower comes alive to adorn the landscape. Properly nurtured and tended they become showpieces; neglected, they are soon overtaken by nature's predators. From the mighty oak down to the sprouting seed, they all need sustenance and many need continuing care.

In the standards garden things aren't much different. Though we know no season, our products need the same nurturing. We have our oaks—those seemingly immortal documents that have served us well and require only a minimum of revision to keep them relevant. We also have our shrubs, plants, and flowers—those standards of a young, tender age, that require greater attention. It is here we must labor the most.

The IEEE process and staff are the soil and moisture that allow the seeds to germinate and grow. The working groups are the tillers of the soil, and the Board committees—the New Standards Committee (NesCom) and the Standards Review Committee (RevCom) in particular—are the weeders and pruners watching over the progress. But from whence cometh the seeds?

Traditionally, industry and the fertile imagination of our members have kept the seed bins full. In more recent times a new committee of the Board, New Opportunities in Standards (NosCom), currently chaired by Ivor Knight, was asked to dig deeper in the garden to see if it could unearth new opportunities for standards development.

To bring everybody up to speed and get them thinking about what might be a profitable harvest, NosCom organized a panel for our Board members' forum in March past. The topic was "Standards and Standards Programs of the Future." It was an interesting and productive evening. Coverage of the event appears in this issue *(page 6)*, and I encourage you to read about it.

One of their earlier conclusions was that "it was no longer permissible or practical to begin the standards development process after the technology has reached maturity." Something more than our traditional approach was needed. The answer? A new program where we could look at emerging technologies and see if they were fertile ground for new standards. It is kind of a greenhouse operation, a place to sort out the right seeds and get a head start in the seeding process.

So interesting things are happening. The pursuit of new opportunities and the efficient maintenance of what we have are key to retaining the worldwide respect our standards have. Let's keep working toward that end.

New Copyright Statement Required for Drafts

The copyright statement for draft projects has been revised. The statement that appears below is required to appear on the front page of every draft. Please make a note of this revised text.

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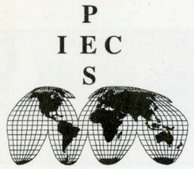

The Global Role for PES

Introducing the IEC

by Anne O'Neill

"As the world moves toward one market, it is clear that national standards will decline in importance, in favor of international standards. Both manufacturers and users alike will do themselves a disservice in the future to use just national standards." This is how the Action Plan for the Power Engineering Society's Vision for the Future begins. A global role for the IEEE Power Engineering Society (PES) means working with the International Electrotechnical Commission (IEC). "No organization alone has the resources to do the standards work of the world by themselves these days....Anything IEEE/PES does must be complementary to, not competitive with, IEC's efforts," the Action Plan continues.

As a first step, the Action Plan calls for PES to become familiar with the IEC. Basic to working with IEC is understanding it overlaps with PES. The broad similarity of scope and purpose in the field of electrotechnical interests is the justification for focusing on cooperation with IEC rather than with the International Organization for Standardization (ISO) or any other international standards organization.

Participation in IEC work is through each country's national committee to the IEC, not by the individual membership that characterizes IEEE. At the national level, every country that participates in an IEC technical committee (TC) or subcommittee has some kind of "mirror" committee, as it is called in Germany, or Technical Advisory Group (TAG), as it is called in the US. These committees are the focal point for communication with IEC TCs, assembling input for draft standards in ballot, and appointing individual experts to serve on working groups.

A number of PES members already actively serve as technical experts on IEC working groups, as liaisons to PES reporting on IEC committee work, and as their country's delegates to IEC meetings. The vision is that this technical standards work be expanded and IEEE input receive greater recognition.

The rest of this column contains some specific steps for PES standards developers. If your PES TC currently has no regular reporting about its IEC counterpart, there are a number of ways you can begin. Here are some suggestions to get you started:

- Ask one of your members to participate in his or her country's TAG or mirror committee and report a summary of that activity. Most TAG participation is carried on through the mail.
- If you want to know more about how US TAGs function, an orientation is regularly offered. (See the schedule below for upcoming sessions.) Also request a copy of the *International Electrotechnical Commission Structure and Operations—General Notes,* a 20-page introduction to the subject. Contact the Secretary of the USNC, Charles T. Zegers, at the American National Standards Institute, (212) 642-4965, fax (212) 398-0023, for more details.

November 10, 1994	**March 22, 1995**	**July 18, 1995**
ISA, Raleigh, NC	**IEEE, Piscataway, NJ**	**AMP, Harrisburg, PA**
1–4 p.m.	**9 a.m. to noon**	**1–4 p.m**

- If you are already participating in an IEC working group or your country's mirror committee balloting on draft international standards, you should know that IEEE encourages the use and adoption of its standards by other organizations, as well as by national, regional, and international bodies. Contact Michelle Phillips Greene at (908) 562-3804 for more information on the IEEE adoption policy and procedures. Watch this column for future news about PES work with IEC. ◆

Anne O'Neill is the PES International Program Engineer. She can be reached at (908)562-3852 (a.oneill@ieee.org).

New ISO Committee to Study Environmental Management

The International Organization for Standardization (ISO) has formed a new Technical Committee (TC) 207 on Environmental Management, with a scope defined as standardization in the field of environmental management tools and systems. A working group will focus on the environmental aspects in product standards. Subcommittees have been formed for environmental management systems, auditing, labeling, performance evaluation, life cycle, and terms and definitions.

In the United States, a Technical Advisory Group (TAG) is being assembled to provide US input. The American Society for Testing and Materials (ASTM) is providing the administrative secretariat, or home for the US TAG to TC207. If you are interested in serving on the US TAG, or in obtaining more information on its activities, please fax Rose Tomasello at ASTM (215) 299-2630. ◆

Candidates needed for TAG for CISPR Subcommittee A of the USNC of the IEC

At the February meeting of the ANSI-Accredited Standards Committee C63 (Electromagnetic Compatibility) Subcommittee 3 (International Standardization), an immediate need was identified for volunteers to serve on the Special Committee on Radio Interference (CISPR)/A Technical Advisory Group (TAG) for the International Electrotechnical Commission (IEC).

The TAG deals with US contributions to and reviews of proposed international standards on methods of measurement and instrumentation used to show conformance of products to emission and immunity limits. CISPR/A is responsible for CISPR Pub 16. At present topics such as test site validation, antenna calibrations, measurement uncertainty, and measurement of emissions above 1 GHz are discussion topics that need inputs from experts.

To submit your name and credentials for membership consideration, forward your application to Don Heirman, Deputy TA for CISPR/A/TAG by fax at (908) 530-5695. ◆

Awards Spotlight

Five IEEE Standards Medallions were awarded in the past quarter. **Warren Boxleitner, George Haralampu, Dennis Lenk,** and **Ed Marrow** were presented with the IEEE Standards Medallion at the April Surge-Protective Devices Committee meeting.

William J. Moylan was awarded the Medallion at the May I&CPS 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.

Frank L. Unmack, Chair: 334-1994, IEEE Standard for Qualifying Continuous Duty Class 1E Motors for Nuclear Power Generating Stations

Richard A. Hartlein, Chair: 404-1993, IEEE Standard for Cable Joints for Use with Extruded Dielectric Cable Rated 5000–138 000 V and Cable Joints for Use with Laminated Dielectric Cable Rated 2500–500 000 V

Tin S. Fong, Co-chair; **Joel H. Mallory,** Co-chair: 524a-1993, IEEE Guide to Grounding During the Installation of Overhead Transmission Line Conductors (Supplement to IEEE Guide to the Installation of Overhead Transmission Line Conductors)

Kenneth G. Alonge, Chair, 802.10; **Russell Housley**, Vice Chair; **Brian J. Phillips,** Technical Editor, 802.10f; **Peter Yee,** Technical Editor, 802.10e: 802.10e-1993 & 802.10f-1993, IEEE Standards for Local and Metropolitan Area Networks: Supplement to Standard for Interoperable LAN/MAN Security (SILS): Secure Data Exchange (SDE) Sublayer Management (Subclause 2.8) and SDE of Ethernet V2.0 in IEEE 802 LANs (Annex 2H)

Richard L. Doughty, Chair: 841-1994, IEEE Standard for Petroleum and Chemical Industry—Severe Duty Totally Enclosed Fan-Cooled (TEFC) Squirrel Cage Induction Motors—Up to and Including 500 hp

Edward Jacques, Chair: 896.3-1993, IEEE Recommended Practice for Futurebus+

Stephen Cecil, Chair: 896.4-1993, IEEE Standard Conformance Test Requirements for Futurebus+

Richard Evans, Chair: 1044-1993, IEEE Standard Classification for Software Anomalies

Jerry Mersky, Chair: 1059-1993, IEEE Guide for Software Verification and Validation Plans

Dheena D. Moongilan, Chair: 1140-1994, IEEE Standard Procedures for the Measurement of Electric and Magnetic Fields from Video Display Terminals (VDTs) from 5 Hz to 400 kHz

John 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)

Mike Armstrong, Chair, Type 10BASE-T Conformance Test Task Force; **Pat Thaler,** Past Chair, 802.3; **Geoffrey O. Thompson,** Current Chair, 802.3; **Bill Randle,** Technical Editor, 1802.3d-1993: Conformance Test Methodology for IEEE Standards for Local and Metropolitan Area Networks: Supplement to CSMA/CD Access Method and Physical Layer Specifications: Type 10BASE-T Medium Attachment Unit (MAU) Conformance Testing (Section 6)

David Peelo, Chair: C37.015-1993, IEEE Application Guide for Shunt Reactor Switching for AC High Voltage Circuit Breakers

David W. Jackson, Chair: C62.92.3-1993, IEEE Guide for the Application of Neutral Grounding in Electrical Utility Systems, Part III—Generator Auxiliary Systems

William P. Lidinsky, Chair, 802.1; **Tony Jeffree,** Chair, Network Management Task Group: ISO/IEC 15802-4 : 1994, Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Common specifications—Part 4: System load protocol

Robert A. Donnan, Chair, 802.5; **Alan Beardsley,** Fibre Optic Attachment Editor: ISO/IEC TR 11802-4:1994 [802.5j-1993], Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Technical reports and guidelines—Part 4: Token ring access method and physical layer specifications—Fibre optic station attachment

COLLECTIONS

Jeffrey H. Nelson, Special Contributor: Capacitor Standards Collection, 1994 Edition

P. D. Quinn, Special Contributor: Transmission Line Construction Standards Collection, 1994 Edition

Where Do We Go From Here?

Standards in the 21st Century

by Kristin Dittmann

Never has there been more concern and controversy in the standards arena about how standards-developing organizations (SDOs) should proceed. The implications of political and economic change in the world today present SDOs, and individual standards writers themselves, with increasingly difficult challenges to face if the needs of tomorrow are to be met.

The New Opportunities in Standards Committee (NosCom) of the IEEE Standards Board assembled a group of speakers at the Board's March forum to present their vision of standards in the future. The speakers included Ivor Knight, chair of NosCom; Judy Gorman, associate staff director of IEEE Standards; Dick Holleman, member of the IEEE Standards Board; Dick Engelmann of the Federal Communications Commission (FCC) and member of the IEEE Communications Society; and Don Loughry, Vice Chair of the Board.

Driven by industry and partners with industry

Ivor Knight stated that SDOs will need to establish mechanisms to be more responsive to industry needs if they are to remain in business. He emphasized that standards will be better for business if they continue to be voluntary and driven by industry rather than by government. Speaking for the point of view of a standards program, Judy Gorman presented what she called "a selection of critical items in our future viability"—Partnerships with consortia; linkage through harmonized "SPAsystems* " (as opposed to mandating a single system); restructuring of funding mechanisms; and energizing IEEE's presence in the world.

"Internationally focused, electronically capable, and expert"

Dick Holleman noted that intellectual property rights (IPR) are playing an increasingly important role in standards development, yet the role of IPR in standards is frequently overlooked until a problem arises (see related article on patents, cover page). Standards-related IPR may be treated differently in Europe than in the US—"in Europe, a view is evolving that when IPR issues are involved, there is a higher interest than the patentholder's right, which is the idea of the common good." As IEEE standards move into the international arena, working out IPR issues becomes more complicated. Holleman also pointed out that there is already discussion—and dissension—about how IPR issues are to be handled in the National Information Infrastructure (NII), the so-called "Information SuperHighway."

According to Dick Engelmann, there is an awakening concern about what government's role in standardization ought to be in addition to the increasing awareness of IPR issues in standardization. Some of the trends he's observed lately include government's reliance on *industry* to develop standards, *not government;* a possible movement toward mandatory standards; and, in the US, a stronger government feeling about the need for standards to achieve such current priorities as healthcare.

As a result of these trends and other developments, Engelmann believes that in the future we will have fewer SDOs, because industry won't be able to afford to support them all. The surviving SDOs will be "internationally focused, electronically capable, and expert in developing standards." He sees closer government and industry partnerships for standards, and possibly even government funding.

Paradigm shifts: "Thriving on chaos"

"Standards are at the heart of the information age," stated Don Loughry. The key to survival will require leading the way, and not just responding to current needs. The SPAsystem holds the promise for this leadership. Its flexibility holds out the possibility of tools that have never before seemed practical, such as a living dictionary of terms. But this leadership requires more than a mechanism; it requires "visionary proactivity." Those who are involved in standards need to be going to the "cutting-edge" conferences and finding the right technology topics to move the work toward anticipatory standards. Finally, Loughry warned, we must be willing to "thrive on chaos—be flexible, opportunistic." ◆

* Standards Process Automation System

Recent IEEE Standards Publications

COMPUTER

802.10e-1993 & **802.10f-1993** IEEE Standards for Local and Metropolitan Area Networks: Supplement to Standard for Interoperable LAN/MAN Security (SILS): Secure Data Exchange (SDE) Sublayer Management (Subclause 2.8) and SDE of Ethernet V2.0 in IEEE 802 LANs (Annex 2H) (ISBN 1-55937-393-8) [SH17012-NWL] $35.00

896.3-1993 IEEE Recommended Practice for Futurebus+ (ISBN 1-55937-434-9) [SH17442-NWL] $65.00

896.4-1993 IEEE Standard Conformance Test Requirements for Futurebus+ (ISBN 1-55937-374-1) [SH16824-NWL] $60.00

1044-1993 IEEE Standard Classification for Software Anomalies (ISBN 1-55937-383-0) [SH16915-NWL] $38.00

1059-1993 IEEE Guide for Software Verification and Validation Plans (ISBN 1-55937-384-9) [SH16923-NWL] $48.00

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

1802.3d-1993 Conformance Test Methodology for IEEE Standards for Local and Metropolitan Area Networks: Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications: Type 10BASE-T Medium Attachment Unit (MAU) Conformance Testing (Section 6) (ISBN 1-55937-419-5) [SH17251-NWL] $45.00

11802-4 : 1994 (ISO/IEC TR) [IEEE Std 802.5j-1993] Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Technical reports and guidelines—Part 4: Token ring access method and physical layer specifications—Fibre optic station attachment (ISBN 1-55937-414-4) [SH17202-NWL] $35.00

15802-4 : 1994 (ISO/IEC) Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Common specifications—Part 4: System load protocol (ISBN 1-55937-341-5) [SH16535-NWL] $40.00

ELECTROMAGNETIC COMPATIBILITY

1140-1994 IEEE Standard Procedures for the Measurement of Electric and Magnetic Fields from Video Display Terminals (VDTs) from 5 Hz to 400 kHz (ISBN 1-55937-423-3) [SH17293-NWL] $45.00

INDUSTRY APPLICATIONS

841-1994 IEEE Standard for Petroleum and Chemical Industry—Severe Duty Totally Enclosed Fan-Cooled (TEFC) Squirrel Cage Induction Motors—Up to and Including 500 hp (ISBN 1-55937-394-6) [SH17210-NWL] $35.00

POWER ENGINEERING

334-1994 IEEE Standard for Qualifying Continuous Duty Class 1E Motors for Nuclear Power Generating Stations (ISBN 1-55937-433-0) [SH17418-NWL] $44.00

404-1993 IEEE Standard for Cable Joints for Use with Extruded Dielectric Cable Rated 5000–138 000 V and Cable Joints for Use with Laminated Dielectric Cable Rated 2500–500 000 V (ISBN 1-55937-390-3) [SH16980-NWL] $43.50

524a-1993 IEEE Guide to Grounding During the Installation of Overhead Transmission Line Conductors (Supplement to IEEE Std 524-1992) (ISBN 1-55937-437-3) [SH17467-NWL] $52.00

C37.015-1993 IEEE Application Guide for Shunt Reactor Switching for AC High Voltage Circuit Breakers (ISBN 1-55937-438-1) [SH17475-NWL] $42.50

C62.92.3-1993 IEEE Guide for the Application of Neutral Grounding in Electrical Utility Systems, Part III—Generator Auxiliary Systems (ISBN 1-55937-388-1) [SH16964-NWL] $41.50

COLLECTIONS

Capacitor Standards Collection, 1994 Edition, Contains: 18-1992, 824-1994, 1036-1992, C37.012-1979 and C37.99-1990 (ISBN 1-55937-416-0) [SH17228-NWL] $89.00

Transmission Line Construction Standards Collection, 1994 Edition, Contains: 524-1992, 524a-1993, 951-1988, 977-1991 and 1025-1993 (ISBN 1-55937-439-X) [SH17483-NWL] $89.00

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

IEEE STANDARDS BOARD ACTIONS

APPROVED PARS FOR NEW STANDARDS

P802.5r (C/LM) Supplement to Token Ring Access Method and Physical Layer Specifications: Dedicated Token Ring Station Attachment
P1393 (C/BA) Standard for Spaceborne Fiber Optic Data Bus
P1397 (SCC31) Standard Reference and Topology Model for Automatic Metering and Related Systems
PC57.13.5 (PE/TR) Guide for Partial Discharge Measurement in Instrument Transformers 69 kV and Above

REVISED PARs

P1238.1 (C/PA) Standard for Information Technology—OSI Application Program Interfaces—File Transfer, Access and Management [C Language Binding]
P1278.3 (C/SCIS) Standard for Interactive Simulation—Exercise Management and Feedback Requirements for Distributed Interactive Simulation
P1284.1 (C/MM) Standard for Information Technology for Transport Independent Printer/System Interface (TIP/SI)

PARs FOR STANDARDS REVISIONS

P80 (PE/SUB) Guide for Safety in AC Substation Grounding
P399 (IA/PSE) Recommended Practice for Power Systems Analysis
P951 (PE/T&D) Guide to the Assembly and Erection of Metal Transmission Structures
PC57.13 (PE/TR) Standard Requirements for Instrument Transformers
PC62.11 (PE/SPD) Standard for Metal-Oxide Surge Arresters for AC Power Circuits (over 1kV)

WITHDRAWN PARs

P986 (PE/SUB) Performance and Testing Specification of HVDC System
P1003.4c (C/PA) Standard for Information Technology—Portable Operating Interfaces (POSIX) Part 1: Real Time and Related System API
P1014 (C/BA) Standard for a Versatile Backplane Bus: VMEbus

CHANGES TO PAR NUMBERS

Note that P1287 is now redesignated as P1390.1; P1294 is now redesignated as P1390.2.

TITLE CHANGE TO PARs

PC37.35 (PE/SWG) Guide for the Application, Installation, Operation, and Maintenance of High Voltage Air Disconnecting Interrupter Switches

APPROVAL OF NEW STANDARDS

610.10 (C/SCC) Glossary of Computer Hardware Terminology
1185 (PE/IC) Guide for Installation Methods for Generating Station Cables
1193 (SCC27) Guide for Measurement of Environmental Sensitivities of Standard Frequency Generators
1303 (PE/SUB) Guide for Static VAR Compensator Field Tests
C37.20.2b (PE/SWG) Supplement to Standard for Metal-Clad and Station-Type Cubicle Switchgear: Current Transformers Accuracies

REVISED STANDARDS

82 (PE/IC) Test Procedure for Impulse Voltage Tests on Insulated Conductors
824 (PE/T&D) Standard for Series Capacitors in Power Systems
1057 (IM/TC10) Standard for Digitizing Waveform Recorders

REAFFIRMED STANDARDS

475 (EMC/SC) Measurement Procedure for Field Disturbance Sensor (rf Intrusion Alarm)
694 (C/MM) Standard for Microprocessor Assembly Language
C62.1 (PE/SPD) Standard for Gapped Silicon-Carbide Surge Arresters for AC Power Circuits
C62.2 (PE/SPD) Guide for the Application of Gapped Silicon-Carbide Surge Arresters for Alternating Current Systems

ADOPTED AS FULL USE

1150 (PE/ED&PG) Recommended Practice for Integrating Power Plant Computer-Aided Engineering (CAE) Applications

WITHDRAWN STANDARDS

4-1978 (PE/PSIM) Standard Techniques for High Voltage Testing
162-1963 (C/SCC) Standard Definitions of Terms for Electronic Digital Computers
165-1977 (C/SCC) Standard Definitions of Terms for Analog Computers
166-1977 (C/SCC) Standard Definitions of Terms for Hybrid Computer Linkage Components
177-1978 (UFFC) Standard Definitions and Methods of Measurements for Piezoelectric Vibrators
251-1984 (IA/ID) Standard Test Procedures for Tachometer Generators
381-1977 (PE/NPE) Standard Criteria for Type Tests of Class 1E Modules Used in Nuclear Power Generating Stations
421B-1979 (PE/ED&PG)Standard for High-Potential Test Requirements for Excitation Systems for Synchronous Machines
428-1981 (IA/SPC) Standard Definitions and Requirements for Thyristor AC Power Controllers
457-1982 (MTT) Standard Definitions of Terms for Nonlinear, Active, and Nonreciprocal Waveguide Components
497-1981 (PE/NPE) Standard Criteria for Accident Monitoring Instrumentation for Nuclear Power Generating Stations
690-1984 (PE/ED&PG) Standard for the Design and Installation of Cable Systems for Class 1E Circuits in Nuclear Power Generating Stations
696-1983 (C/MM) Standard 696 Interface Devices
853-1985 (DEI/S-32-6) Recommended Practice for Voltage-Endurance Testing of Enameled Wire

CONDITIONS MET

528 (AES/GAP) IEEE Standard Inertial Sensor Terminology
1284 (C/MM) IEEE Standard Signaling Method for a Bidirectional Parallel Peripheral Interface for Personal Computers

ABBREVIATIONS

AES/GAP	Aerospace Electronic Systems/ Gryo Accelerometer Panel
C/BA	Computer/Bus Architecture
C/LM	Computer/LAN MAN
C/MM	Computer/Microprocessor & Microcomputer
C/PA	Computer/Portable Applications
C/SCC	Computer/Standards Coordinating Committee
C/SCIS	Computer/Interactive Simulation
DEI/S-32-6	Dielectrics and Electrical Insulation/S-32-6
EMC/SC	Electromagnetic Compatibility/ Standards Committee
IA/ID	Industry Applications/Industrial Drives
IA/PSE	Industry Applications/Power Systems Engineering
IA/SPC	Industry Applications/Static Power Converters
IM/TC10	Instrumentation & Measurement/ Technical Committee 10
MTT	Microwave Theory & Techniques
PE/ED&PG	Power Engineering/Energy Development and Power Generation
PE/IC	Power Engineering/Insulated Conductors
PE/NPE	Power Engineering/Nuclear Power Engineering
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
SCC27	Standards Coordinating Committee 27 (Time & Frequency)
SCC31	Standards Coordinating Committee 31 (Automatic Meter Reading & Energy Management)
UFFC	Ultrasonics, Ferroelectrics, & Frequency Control

IEEE Color Books

(Continued from page 3)

Hugh Nash

Nash describes the Color Books series as a welcome reference in the field of industrial and commercial power systems, which is "too broad for any one person to deal with." Nash notes that the Color Books are organized in a way that parallels codes (e.g., chapters on electrical safety or emergency and standby power). He suggests that comparing what you find in the books to what you're already doing on the job can provide a valuable lesson.

Emerging Projects

Erling Hesla

In addition to the ten books already in print, there are three additional projects in progress: the Yellow Book, the Blue Book, and the Violet Book. Erling Hesla, chair of the Yellow Book, *Guide for Maintenance, Operation, and Safety of Industrial and Commercial Power Systems* (IEEE P902), says that in addition to the purpose described in its title, the book will be helpful for developing operations procedures and can also be used in training. Hesla would like to encourage people who are interested in the subject to join in reviewing and contributing to the Yellow Book. Hesla, who also worked on the Red Book, is looking forward to the project's completion. "It is a great satisfaction for the members of the working group when a book is finally published, and you know it is a good book."

Keith Cooper, chair of the Blue Book, *Application Guide for Low-Voltage Circuit Breakers Used in Industrial and Commercial Power Systems* (IEEE P1015), describes the project as providing guidance to engineers for two types of technologies—low-voltage power circuit breakers and molded-case circuit breakers. Although both are used in low-voltage systems, the application guidelines for each are different. The guide will help application engineers determine how to select the appropriate type for particular applications and how to use them properly. Cooper hopes to conclude the balloting processing of the Blue Book in the fall.

The Violet Book, *Recommended Methods for Calculating AC Short-Circuit Currents in Industrial and Commercial Power Systems* (IEEE P551), has been under way for a number of years. Conrad St. Pierre, the chair of this effort since 1989, anticipates that work will be finished by the end of 1995. This recommended practice is intended to be a practical and general treatise on the subject. The focus will be the understanding and application of analytical techniques of short circuits.

Benefits of the Process

Several of the working group chairs point out an additional benefit they have received from their participation in the Color Books effort—networking. Hugh Nash now knows and can call the foremost experts in his field, access which helps him in his day-to-day work. Bill Moylan said, "One major benefit is that you have the contacts so that you can call manufacturers, consultants, et cetera, to get answers to your questions, help with your particular problems, or the name of the right contact to pursue the matter further." Griffith says that what he has enjoyed most about participating in the process over the years is "having the opportunity to interact with other experts in the field and making a contribution in a way that also gives beneficial professional exposure."

For more information about any of the projects in the IEEE Color Book series or about joining an IEEE working group, contact John Parisi at (908) 562-3814 (j.parisi@ieee.org). For information on upcoming seminars related to the Color Books, contact Tina Alston at (908) 562-3816 (t.alston@ieee.org). ◆

Valerie Zelenty is an IEEE Standards Project Editor

COMING THIS FALL . . .

High-Performance I/O Bus Architecture: A Handbook to IEEE Futurebus+ Profile B *and* Open Systems Handbook: A Guide to Building Open Systems.
Two new handbooks for computer professionals and systems managers.

Essential reading for software and hardware professionals working with systems in which Profile B modules will be inserted, *High-Performance I/O Bus Architecture: A Handbook to IEEE Futurebus+ Profile B,* fully explains why specific requirements are vital on Profile B designs. Written for an I/O Bus, this one-of-a-kind publication addresses the most frequently asked questions about Profile B, including why fields in LMCR and LCCR CSRs are important and what configuration rules to follow for the physical layer . . . and much more.

High-Performance I/O Bus Architecture: A Handbook to IEEE Futurebus+ Profile B
Product No: SP109

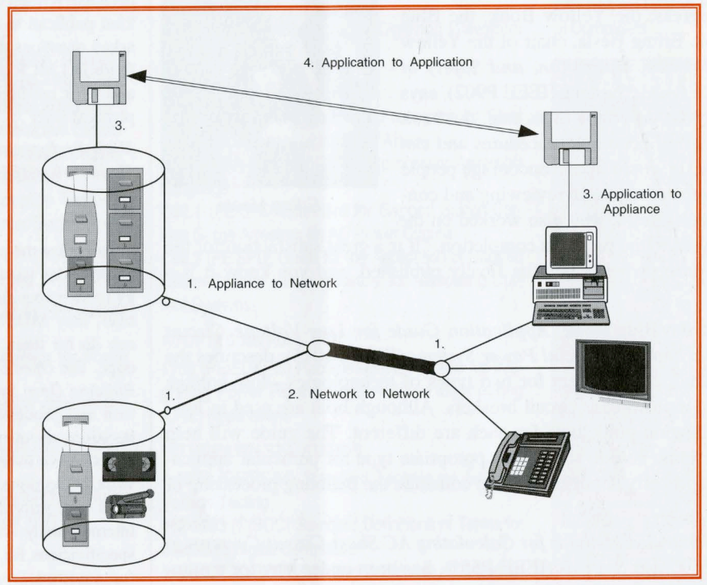
To realize the promise of open systems, companies today must be able to apply the technology to their specific business successfully. Moreover, they MUST KNOW what open systems can do for them. . . to keep their competitive edge. The *Open Systems Handbook: A Guide to Building Open Systems* focuses on the information and processes needed to make strategic decisions about open systems, while providing an extensive overview of open systems and the work being done to achieve them. It also contains vital information on the current status of internationally accepted industry standards and specifications for open systems today . . . and for tomorrow.

Open Systems Handbook: A Guide to Building Open Systems
Product No: SP117

Windows to... Standards for the Information Infrastructure

by Jim Isaak

A hot topic in the news is the National Information Infrastructure (NII), more familiarly known as the "Information Superhighway." As the diagram indicates, the information infrastructure (I.I.) reflects a convergence of current information and communications facilities. In a very real sense, the I.I. is an evolution of today's "data paths" and "streets" into tomorrow's "freeways" and "toll roads." The path this evolution takes is the key issue under discussion. A closely related issue is determining the points at which divergent competition will thrive and the points at which standards will be required. The question within the context of standards is, how can the voluntary standards process respond to the requirements for I.I. standards?



Four Critical Interface Standards for the I.I.

The Computer System Policy Project (CSPP), a group of 13 major computer vendor CEOs, has issued both an I.I. vision document and a CSPP report reference with four critical areas for standardization. These are identified in the diagram. It is important to realize that these span a multitude of standards-development organizations (SDOs), touching diverse IEEE societies and activities worldwide. Similar descriptions are being put forward by the European Community and national bodies in Canada, Sweden, and so forth. While CSPP has stressed working within the industry forums, government has been pressured to take the lead, and private corporations are hoping to get exclusive control of some key interfaces.

The challenge for standards forums at all levels is to work together to deliver a coherent environment for the I.I. Many existing standards fit into the critical areas identified; others may be needed; all will need to work together. Most critically, this must occur in a timely fashion. If the standards process does not deliver, private interests may attain exclusive positions, and either of these situations may result in government intervention. The standards that are incorporated into the I.I. will link every household and every desktop in the country, potentially the world. Alternate standards will provide limited commercial value. In some areas, the future of the volunteer standards process is dependent on success in this endeavor.

It may seem that the rapidly moving consortia are a competing alternative to the standards process, and there is some truth to this. However, the voluntary process provides a unique value in terms of *due process* and *international acceptance,* and a genuine advantage in the vast experience in the processes needed to build and maintain specifications. Collaboration with consortia can yield timely results and industry consensus. This is not a good time for turf wars among SDOs or with alternate forums.

The American National Standards Institute (ANSI) has started an Information Infrastructure Standards Panel (IISP) that will provide a national level focus for I.I. standardization. The IISP was not charted to develop standards but to catalog requirements and standards that are responsive to these, to solicit SDOs to work on unaddressed requirements, and to encourage participation in the process by organizations that have not traditionally used the voluntary process. A support organization, an Information Infrastructure Standards Coordinating Committee (IISCC), has been proposed by IEEE. This group would work in conjunction with the IISP with parallel goals in the context of IEEE standards. This group may also tie into other national or regional I.I. activities where IEEE standards may be needed. All interested persons are encouraged to submit their name for the e-mail distribution list associated with the IISCC. Send your e-mail address to: nii-request@stdsbbs.ieee.org. Sponsors and societies are also encouraged to nominate representatives for the IISCC, particularly where work in that society overlaps with the infrastructure.

Additional details are available on the SPAsystem via World Wide Web:

gopher://stdsbbs.ieee.org/00/pub/NII.GII/giiintro.htm. For copies of the CSPP documents, call (202) 662-8407.

Jim Isaak is a member of the IEEE Standards Board.

CALENDAR

OF EVENTS

July

24–28 Power Engineering Society (PES) summer meeting
San Francisco, CA
contact—B. Speckman
(415) 973-2875

27–29 SCC28 Non-Ionizing Radiation meeting
San Francisco, CA
(at PES Summer Meeting)
contact—J. Parisi (908) 562-3814
or j.parisi@ieee.org

28 US TAG for ISO/IEC JTC1/SC26 Video Conference Meeting
Chelmsford, MA *and*
Mountain View, CA
contact—Clyde Camp, Texas Instruments, 2313 Merimac Dr., Plano, TX 75075, (214) 995-0407

August

12 *Deadline for draft and PAR submission for September Standards Board meeting*

19–20 Measurement of Radio-Noise Emissions Seminar
Chicago, IL
contact—Tina Alston
(908) 562-3816 or
t.alston@IEEE.org

29–31 US TAG for ISO/IEC JTC1/SC7
Rome, NY
contact—Leonard Tripp, Boeing, MS 6H-TW, P.O. Box 3707, Seattle, WA 98124, (206) 237-5240

September

8–10 Industrial & Commercial Power Systems Seminar (The Color Book Series)
Vancouver, BC, Canada
contact—Tina Alston (908) 562-3816 or t.alston@ieee.org

12 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

12–14 Petroleum & Chemical Industry Committee (PCIC) meeting
Vancouver, BC, Canada
contact—T. Pearson
(214) 754-3764

12–14 Software Engineering Standards Committee (SESC) meeting
(Computer Society)
Denver, CO
contact—J. Marciniak
(301) 816-1439

19–22 Power System Relaying Committee meeting
(Power Engineering Society)
St. Louis, MO
contact—A. T. Giuliante (914) 347-5166; fax (914) 347-5508

19–23 Surge-Protective Devices (SPD) Committee meeting
(Power Engineering Society)
Pittsburgh, PA
contact—K. B. Stump (404) 740-3852; fax (404) 740-3397

20–21 IEEE Standards Board Committee meetings
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807 or
t.decourcelle@ieee.org

22 IEEE Standards Board meeting
Piscataway, NJ
contact—Terry deCourcelle
(908) 562-3807 or
t.decourcelle@ieee.org

23–24 Design Automation Standards Committee (DASC) meeting
(Computer Society)
Grenoble, France
contact—Jean Mermet
33 76 51 44 99 or mermet@imag.fr

24–28 Transformers Committee meeting
(Power Engineering Society)
Milwaukee, WI
contact—J. H. Harlow (813) 535-3408; fax (813) 546-0121

28–30 SCC31 Automatic Meter Reading & Energy Management meeting
Nashville, TN
contact—William Rush
(312) 890-6436

October

2–6 International Test Conference (ITC), Test Technology Technical Committee (TTTC)
(Computer Society)
Washington, DC
contact—Doris Thomas (814) 941-4666; fax (814) 941-4668

3–6 Switchgear Committee meeting
(Power Engineering Society)
Nashville, TN
contact—J. H. Brunke
(503) 230-4435;
fax (503) 230-3212

16, 19 & 21 US TAG for ISO/IEC JTC1/SC22/WG15
Vancouver, BC, Canada
contact—Lorraine Kevra, AT&T, 5A-210, Rts. 202/206N, Bedminster, NJ 07921, (908) 234-6423

16–21 Portable Applications Standards Committee (PASC) meeting
(Computer Society) Seattle, WA
contact—Barry Needham (408) 238-8749 or barry@oes.amdahl.com

17–20 Bus Architecture Standards Committee (BASC) meeting
(Computer Society)
Raleigh–Durham, NC
contact—Computer Society, Conferences and Tutorials (202) 371-1013, Rochelle Miller (202) 371-1013, or Harrison Beasley (214) 997-3431 ro.miller@computer.org or h.beasley@ieee.org

18–20 Power System Communications (PSC) Committee meeting
(Power Engineering Society)
San Jose, CA
contact—M. S. Tibensky (416) 590-3099; fax (416) 590-3654

November

1–2 Nuclear Power Engineering (NPE) Committee meeting
(Power Engineering Society)
Norfolk, VA
Contact—J. E. Thomas (803) 831-4011; fax (803) 831-3077

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

Multimedia Meetings: Conferencing in Standards

by Mary Lynne Nielsen

While many IEEE working groups may be considering audioconferencing and videoconferencing for the first time, one IEEE standards committee has been using these services for over two and a half years. The IEEE Microprocessors and Microcomputers Standards Committee (MMSC) of the IEEE Computer Society uses one of these two media at every one of its standards meetings.

"You can have a virtual meeting anywhere in which anyone in the world can participate," said MMSC chair Steve Diamond. "There's been no reduction in meeting effectiveness; we do an evaluation after every meeting and the response has always been positive."

MMSC began to experiment with multimedia meetings because they wanted to reduce travel costs and increase their geographical diversity, Diamond said. Audioconferencing and videoconferencing offered a means to accomplish both while still allowing the committee to hold most of its meetings on the West Coast.

MMSC started their multimedia efforts with videoconferencing, but audioconferencing has become the means of choice over the years. Diamond says that this is due to its ease of setup (most audioconferences take less than an hour to plan) and lower cost.

Audioconferencing is done through one of two ways. A single site or multiple sites can be selected and announced in advance of the meeting. People can then travel to the site to attend the meeting. Often, a site is selected because members will be attending a related meeting or several can come to it. Otherwise, members can request to attend by having a specific conference phone line set up between their locations and the meeting location.

Diamond mentioned that this is relatively inexpensive if only one site is calling in to the meeting, since that can be treated as a regular phone call to a speakerphone at the meeting. "Audioconferences with more than two sites generally require use of a conference operator, which can become expensive," said Diamond. "Our last call like this cost one dollar per minute per site." Because of this, MMSC is exploring options for paying for these types of audioconferences, such as surcharges on meeting fees.

Videoconferencing is more complicated to set up than audioconferencing, but offers an advantage in that attendees can see any visuals used at a meeting. "Sometimes a company will provide the videoconferencing room at no cost to IEEE," Diamond said. Videoconferencing is expensive, and company participation offsets the cost. Videoconferencing has been used for about 25% of the MMSC meetings so far.

Diamond said that a disadvantage of videoconferencing is that with donated facilities, usually only two sites can be accommodated. More sites can be added, but this becomes expensive. In addition, videoconferences can experience transmission time delays, which the participants often find disconcerting at first. The time involved for setup is greater, and "people should be ready for surprises," said Diamond.

In the future, MMSC is planning real-time computer conferencing, where participants would attend via an Internet hookup, eliminating the need for any travel at all. "I'm planning to try this in the next few months," Diamond said. He also mentioned that using these new technologies has been strongly favored by his standards committee, and he looks forward to further developments in this area.

Mary Lynne Nielsen is an IEEE Standards Senior Project Editor.

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