IEEE STANDARDS BEARER

IEEE STANDARDS

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# 200 Members Jump Start IEEE-SA Membership Drive

*By Richard J. Holleman*

It all started at the May 1997 meeting of the IEEE Standards Board Advisory Committee. During the meeting final plans were made for the initial membership solicitation campaign, as well as the identification of membership categories and fees. Later that day, Joe Koepfinger, Member Emeritus of the Standards Board and Advisory Committee, handed staff $10 as payment for his 1998 IEEE Standards Association (IEEE-SA) membership, IEEE Member level, and announced, "I guess this makes me the first SA member." He was right. And since then through presentations at the Standards Board meeting in June and at other IEEE standards events, more than 200 members have joined the IEEE-SA.

The Standards Association will become effective 1 January 1998, but the objective is to use the remaining months of 1997 for a membership drive to solicit founding members to form the base SA constituency next year. As a result of the efforts of many Standards Board members, the Standards Activities staff and others, the SA membership drive is well underway and will soon be in full swing. An initial membership mailing is planned for September and will be targeted to those individuals who are currently active participants in IEEE standards development activities. Those who join this year will be SA founding members and will receive a complimentary *IEEE Standards Reference InfoBase on CD-ROM: An Enhanced Version of the IEEE Standard Dictionary of Electrical and Electronics Terms*. A powerful tool based on the Dictionary, this CD-ROM offers fast access to the comprehensive collection of over 33 000 IEEE standards terms and definitions, plus standards abstracts with titles and designations.

The principle underlying SA membership and associated fees is simple and straightforward. It is intended that the annual SA membership fees for IEEE and IEEE society affiliate individual members will be nominal. Therefore, an annual fee of $10 has been established for these individuals. The fee for non-IEEE individual members is $125 and $250 for those who participate in IEEE standards development as organizational representatives.

Individual membership in the SA will provide added value for the standards developers who are engaged in IEEE standards activities. SA members will be eligible for special offers and premiums on select IEEE Standards products and services. Further, membership provides the privilege to participate directly in the governance of the SA. IEEE-SA members will have the opportunity to elect their Standards Association Board of Governors. Qualified SA members will be able to elect the Association's President.

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# IEEE Standards Electronic Services Positioned to Meet Needs of Users

*by Jay Iorio*

For several years, IEEE Standards has been computerizing its products and services, and we are now seeing more and more of the operation being upgraded to take advantage of high-technology tools and techniques. This progress is happening on several fronts, reflecting the fact that the IEEE Standards Program has a broad range of users and customers with diverse needs and expectations.

Our World Wide Web site is quickly becoming the "lobby" through which our community passes, and the modularity of the technology is allowing us to provide our entire range of products and services through this interface. "Hits" to our web site continue to increase at about 15% per month. In the future, as teleconferencing and other technologies evolve to meet our needs, the IEEE is positioning its Standards Program as a collection of "virtual" services that can be accessed easily, without regard to geography.

From the beginning, our primary focus has been providing services to the working groups that create the standards documents themselves. There are two reasons for this: first, these volunteers are the engine of the operation, and facilitating their work has always been a major purpose of the Standards Program. Second, the main information we deal with is the standards documents themselves, and providing groups with network and information services will increasingly serve to get that information into a form that is maximally flexible and useful to

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## WHAT'S INSIDE.....

# MESSAGE FROM THE CHAIR

## Reflection on the Present to Envision the Future

*by Donald C. Loughry*

Cleveland, OH, was the setting for our June 1997 Standards Board meeting series that offered the valuable opportunity for attendees to interact with other IEEE Boards, including the IEEE Board of Directors.

Every now and then it seems appropriate to reflect on events such as these to gain insight into the dynamics of the standards process and its impact on other entities, as well as to learn more about future standards activities.

But unfortunately many of you are not able to participate personally in such events. So I invite you to come along with me as I take you back to Cleveland to "visit" the various events and meetings.

As we enter the conference rooms where the standing committees of the Standards Board are meeting, we see first-hand the standards process in action. Attendance is high at the New Standards Committee (NesCom) and the Standards Review Committee (RevCom) meetings, where discussions are lively but orderly as serious and effective debates take place. Decisions show the mark of due diligence as stacks of Project Authorization Request (PAR) forms and balloted standards are processed. At the New Opportunities in Standards Committee (NosCom) meeting, we witness an exciting exploration of the emerging field of "wearable personal computer systems" and the potential for new interface standards. It truly is a privilege to see these committees in action as they carry out their responsibilities.

In the ballroom lobby there's a live demo of the exciting On-Line IEEE Standards (OLIS) Local and Metropolitan Area Network (LAN/MAN) Subscription, now available. The demo is impressive as it generates a good deal of interest in the fully text searchable collection of LAN/MAN standards in machine readable form—a major advance over image-based raster scan technologies.

At the Standards Board meeting, the agenda covers several topics aimed to build stronger links between IEEE Standards and our Mexican and European colleagues. Events and schedules for the September 1997 meeting of the Standards Board, to be held in Mexico City, are finalized and a commitment is made to hold one of the 1998 Standards Board series of meetings in France at the European Telecom Standards Institute (ETSI) facilities to further open dialogue and explore appropriate means of coordination between our standards organizations.

There are a host of other meetings, both formal and informal, that touch

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# EDITOR'S NOTES

We hope you are enjoying the summer! We appreciate you taking some time to read this information-packed issue of *The Standards Bearer.*

As we enter the second half of the year, the development of the IEEE Standards Association (IEEE-SA) is moving into high gear. The constituency of the IEEE-SA, including the categories of membership and the determination of the SA Board of Governors roles and responsibilities have been established. Please read Dick Holleman's SA update article on the front cover for all the latest details. We're also pleased to announce the launch of the IEEE-SA membership campaign. You can find the IEEE-SA information on our Web site at http://standards.ieee.org/, or if you prefer we can send you a membership package. Please call 1.732.562.3836 or email ieee.sa@ieee.org.

Over the past year the New Opportunities in Standards Committee (NosCom) of the IEEE Standards Board has been discussing and researching the standardization of fuel cells. As fuel cell technology evolves, fuel cell manufacturers and the US Department of Energy (DOE) are concerned that the lack of standards for fuel cells could be a barrier to the acceptance of this developing technology. At the Fuel Cell Summit called by the DOE in Washington, DC, 29-30 April 1997, participants requested that IEEE take a lead in the development of fuel cell technology standards. In Joe Koepfinger's article on page 3 you can read about the summit and get a better understanding of the need for standards in this area of technology.

In this issue, we also cover the European directives for Medical Devices—providing an overview to the two directives impacting manufacturers and exporters of medical devices. See page 9 for all the details.

IEEE Standards electronic services continue to grow and are positioned to meet the needs of our users. Our World Wide Web site is quickly becoming the "lobby" through which our community passes, and with the advantages of technology, we are providing more and more products and services through this interface. The latest is our On-Line IEEE Standards (OLIS) Local and Metropolitan Area Network Subscription. Effective 1 July 1997, IEEE Local and Metropolitan Area Network standards became available via our Web site as a prepaid subscription. Please see the back cover for all the details.

The next edition of the IEEE Standards Bearer, coming out in October, will be our special 10-year Anniversary Issue and will include highlights of the September Standards Board meetings being held in Mexico! Enjoy the issue. ◆

**STANDARDS BEARER**

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# Fuel Cell Summit Meeting Requests IEEE Take Lead in Fuel Cell Technology Standard Development

*by Joseph L. Koepfinger and Lisa Young*

As fuel cell technology comes of age, fuel cell manufacturers and the Department of Energy (DOE) are concerned that the lack of standards for fuel cells will be a major barrier to the acceptance of this rapidly developing technology.

One barrier to the application of fuel cells is the lack of uniform interconnection policies and the lack of acceptance of the inherent protection features integrated into the control systems of the fuel cell. Currently, the need for national codes and standards is being met by differing utility criteria, resulting in a crazy quilt of guidelines.

A large segment of the industry and standard developers who have an interest in fuel cells met to discuss the major issues in a Fuel Cell Summit meeting called by the DOE in Washington, DC, 29–30 April 1997.

Meeting participants characterized the needs as follows:

- The Institute of Electrical and Electronics Engineers, Inc., (IEEE) and the American Society of Mechanical Engineers (ASME) need to jointly develop performance standards for fuel cell technology, and
- The IEEE needs to take the lead in developing a base standard that would coordinate and define an IEEE standard that could be related to fuel cell design, installation, and operation, and in addition, identify standards of other standards developers, i.e., ASME, American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), National Electrical Manufacturers Association (NEMA), etc. This base standard would explain how to apply these standards.

Those present at the meeting further expressed a desire for the IEEE to establish a Standards Coordinating Committee (SCC) that would invite representation from the electric utility industry, the gas utility industry, manufacturers, contractors, academics, Building Officials and Code Administrations (BOCA), DOE, and other participants. There is a strong need for those interested in developing fuel cell standards to make their interests known.

A coordination group could determine what standards exist that are related to fuel cells or that can be adapted to fuel cells. Subsequent modification, if any, could then be determined by the group in order to make the standards particular to fuel cells, and also to identify what new standards are needed. This activity would also provide needed coordination between the standard development of stationary fuel cells and the fuel cells used for transportation.

The need for IEEE coordination with ASME and the National Fire Protection Association (NFPA) is most pronounced in the area of power output and grid connection. summit meeting attendees suggested that the IEEE develop, with ASME and NFPA, a "Memorandum of Understanding" on the development of standards in such areas as performance, definitions, testing, and certification.

Standardization of the interconnect interface is needed, as is the development of criteria for the testing and certification of the integrated protection systems that is acceptable to the electric utility industry, the manufacturer, and the fuel cell operator. Another high priority item concerns emissions and the need for standards emission testing. In general, overall performance certification standards for all types of fuel cells are needed.

An additional issue that received much attention at the summit meeting concerned those fuel cells that produce hotter water and low grade steam being defined as boilers. It was cautioned that ASME codes and other codes need to be reviewed and perhaps revised to avoid being an impediment to the acceptance, cost of installation, and operation of fuel cells.

Among the panelists making presentations on the standard development process were representatives from the IEEE, the NFPA, the American National Standards Institute (ANSI), ASME, Accredited Standards Committee Z21 (ASC Z 21), and the International Code Council (ICC).

If you would like to express your interest in the development of fuel cell standards, contact Joseph L. Koepfinger at joseph_l_koepfinger@dlc.dqe.com, 1. 412. 393. 6560. ◆

## IEEE-SA Launch

*(continued from cover page)*

Membership will also be open to companies who have an interest in the activities of the SA. While they are not eligible to be voting participants on sponsor ballots, industry members of the SA can bring forth to the IEEE-SA Board of Governors and the SA Standards Board issues and views representative of their respective industries and companies. Currently, it is envisioned that a forum of industry liaisons or adhoc groups could be established to keep the SA in close touch with rapidly changing technologies and informed of emerging priority areas for standards development. These groups could also apprise the SA of opportunities for partnering with consortia and industry.

The vision that has emerged from more than two years of planning and organization is an IEEE-SA that provides the capability to offer full standards developing services to the extent that are needed by IEEE members, societies, regions and industry, in general. Through the use of voting members, it will be possible to give SA members a direct say in the activities and operations of the SA. The cornerstone of the SA will continue to be the current standards setting processes and the operations of the IEEE Standards Board. However, establishing the IEEE-SA and its Board of Governors will enable IEEE to provide a strategic focus for those standards needs that constitute expanded levels of activity. More formal partnering with industry, government and the public interest, as well as regional and societal interests, will be possible. The SA infrastructure will be responsive to an increasingly broader constituency of those parties interested in IEEE and standards developing activities.

The SA, which has grown out of the Institute's reorganization initiative brings with it a level of autonomy and ability to govern itself, while at the same time maintaining its accountability to the Institute.

In recent weeks, a number of presentations and discussions have been held with a variety of standards committees and working groups. These have provided an excellent forum for spreading the word about the IEEE-SA—its objectives, benefits and values. The feedback from these meetings also helps the Standards Board and staff with final preparations for the SA.

The list of founding members of the IEEE-SA is growing quickly, and with a concerted solicitation and membership drive, it is hoped that many if not all individuals who are actively involved in standards development will become IEEE-SA founding members this year. The months ahead provide a unique opportunity for participation and representation in this new organization of the Institute—the IEEE-SA. ◆

*Richard Holleman is Vice-President of the IEEE Standards Board.*

# IEEE SCC20 Updates Projects

*by William R. Simpson*

Although it is best known for maintaining IEEE Std 716, Abbreviated Test Language for All Systems (ATLAS), Standard Coordinating Committee 20 (SCC20) sponsors projects on 20 standards under the management of six standards-writing subcommittees, covering all aspects of testing systems.

These subcommittees include ATLAS, which maintains IEEE Std 716 and IEEE Std 771; Test Equipment Description Language (TEDL) maintaining IEEE Std 993; Automatic Test Program Generation (ATPG) maintaining the Digital Test Interface Format (IEEE 1445); A Broad Based Environment for Test (ABBET®) with several active projects; Artificial Intelligence and Expert System Tie to Automatic Test Equipment (AI-ESTATE) with three active projects; and the Standards for the Management of Test and Maintenance Information (referred to as TMIMS).

SCC20 held a meeting in Anchorage, Alaska, 5-9 May 1997, where the six standards-writing subcommittees, plus several administrative subcommittees, met. Several significant events transpired during the meeting.

The ATLAS Committee worked on two basic areas for future releases of the standard, including a supplement for the 1995 ATLAS that would incorporate some technical areas omitted from the 1995 ballot and include a revised requirements document for the ATLAS 2000. Key elements of the ATLAS 2000 include a hierarchical breakdown of language syntax, closer alignment with other SCC20 standards, and the facilitation of convergence between IEEE Std 716 ATLAS and the airlines ATLAS (ARINC 626). The subcommittee also worked on comments provided by the International Electrotechnical Commission (IEC) on the international version of ATLAS (IEC 1926).

The TEDL subcommittee completed its latest revision to IEEE Std 993-1997, and began compiling items for a users guide.

ABBET activities included the review and revision of working drafts in response to comments received during ballot circulation; preparation of one draft for submittal to the Standards Board for publication; and continued efforts on additional drafts.

The Overview and Architecture (or base) document was circulated for ballot comment as a full use standard. Approximately 1100 comments were received. Based on the changes in the draft from its initial publication, coupled with the volume of comments and subsequent changes required in the draft, the draft status is being changed from a full use to trial use standard. The Overview and Architecture document defines the requirements for the other component standards as well as providing details associated with the ABBET environment.

The Software Interface for Resource Management (P1226.3) had been recirculated to ABBET members for comment.

A component standard recently added to the ABBET standards family is P1226.11, the Test Resource Information Model. This model was circulated with the P1226.3 draft as supplemental information during the ballot process.

The draft for IEEE P1446, Ada Test Program Development (AdaTPD), is nearing completion in preparation for its ballot distribution. The draft is planned to be distributed to those interested in participating in the ballot in early 1998.

The AI-ESTATE subcommittee reaffirmed the overview and architecture document as a full-use standard. The Data and Knowledge Exchange project (IEEE P1232.1) has completed its negative ballot review and recirculation, and has been forwarded to the Standards Board for approval. The Reasoner Services project (IEEE P1232.2) is in development and nearing completion and may be ready for ballot before the end of the year. The subcommittee is also considering a testability standard to provide standard testability measures that are both computable and measurable. The subcommittee is actively seeking participants to help with this project.

The TMIMS group completed a new requirements document and developed an outline of the draft standard. The group has reorganized its standard similar to the AI-ESTATE standard with a separation between services and data and knowledge representation. The overview and architecture document will be available soon, and the data and knowledge representation is in draft form. The subcommittee is actively seeking people with maintenance data collection experience.

IEEE P1445, Digital Test Information Format, completed the first phase of its ballot and is in the negative ballot review process. The document is expected to be ready for recirculation by the November meeting, and publication is anticipated for next spring.

The next scheduled meeting of SCC20 will be held 17-21 November 1997 at the LeMeridien Hotel in New Orleans, LA. For more information regarding the meeting or if you're interested in participating in the above projects, contact: Dr. William R. Simpson, Chair of Meeting Arrangements Subcommittee, at rsimpson@ida.org; 1. 703. 845. 6637. ◆

# EUI-64 in Toasters?

*by David V. James*

If your standard has the need for a compact globally unique identifier, the IEEE defined EUI-64 (Extended Unique Identifier, 64 bits) should be considered.

## Origins

Each Ethernet interface has a globally unique 48-bit identifier. The initial 24-bit portion of that identifier, the Organizationally Unique Identifier (OUI), is assigned by the IEEE. The remaining 24-bit extension identifier is administered by the OUI-specified organization, with the intent of assigning a distinct extension identifier to each interface produced by that organization.

Although originally conceived as a mechanism to uniquely identify network interfaces, OUI-based unique numbers are being used in a wider range of computer and electronic applications. Recent applications include, but are not limited to, the following:

- ✔ Architecture identifiers. On IEEE Std 1394-1995 Serial Bus devices, a unique number identifies I/O driver software requirements.
- ✔ Selection identifiers. On IEEE Std 1596-1992 SCI devices, the unique number selects the scrubber node, which assigns initial bus addresses.
- ✔ Device identifiers. Within multiple IEEE standards, unique identifiers are used as distinct resource labels. That label remains unaffected by bus reset operations (even though their bus addresses change).
- ✔ Non-computer uses. Other electronic applications, such as unique cellular phone applications, are envisioned.

## Evolution

When the use of OUI values extended beyond the original network application, the IEEE recognized the need to administer multiple application environments. The IEEE Registration Authority Committee (IEEE/RAC) was formed to provide the IEEE with guidance on how OUI-based identifiers should be used. The IEEE/RAC also resolves unusual difficulties, such as accidental use of the wrong OUI value or changes in assigned but thought-to-be-unlucky values.

With the limited number of the 48-bit unique identifiers (16 million per company) the IEEE/RAC became concerned that identifiers would be consumed if OUI-based identifiers were to be used within other (non-networking) environments. Rather than reducing

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# Recent IEEE Standards Publications

*IEEE Member Price applies only to the first copy of each standard ordered.*
*To order IEEE Standards Publications, please call 1.800.678.IEEE. Outside the US and Canada, call 1.732.981.0060.*
*For more detailed status information, call 1.732.562.3800 or e-mail* stds.info@ieee.org.

## Communications

**167A.2-1996** IEEE Standard Facsimile Test Chart: High Contrast (Gray Scale) *(Test Chart plus 8-page instructions)*
8 pages • [1-55937-771-1] • [SH94450-NZT]
Price: $75.00 • IEEE Mbr: $75.00

## Information Technology

**802.10h-1997** IEEE Standards for Local and Metropolitan Area Networks: Supplement to Interoperable LAN/MAN Security (SILS)—Secure Data Exchange (SDE): Protocol Implementation Conformance Statement (PICS) Proforma (Annex 2L)
16 pages • [1-55937-907-3] • [SH94515-NZT]
Price: $50.00 • IEEE Mbr: $35.00

**802.12d-1997** IEEE Standards for Local and Metropolitan Area Networks: Supplement to Demand Priority Access Method, Physical Layer and Repeater Specifications: Redundant Links
44 pages • [1-55937-908-1] • [SH94516-NZT]
Price: $52.00 • IEEE Mbr: $36.40

**896.10-1997** IEEE Standard for Futurebus+® Spaceborne Systems—Profile S
208 pages • [1-55937-909-X] • [SH94517-NZT]
Price: $76.00 • IEEE Mbr: $53.20

**1076.3-1997** IEEE Standard VHDL Synthesis Package
52 pages • [1-55937-923-5] • [SH94531-NZT]
Price: $54.00 • IEEE Mbr: $37.80

**1156.4-1997** IEEE Standard for Environmental Specifications for Spaceborne Computer Modules
40 pages • [1-55937-911-1] • [SH94520-NZT]
Price: $52.00 • IEEE Mbr: $36.40

**1232.1-1997** IEEE Trial-Use Standard for Artificial Intelligence Exchange and Service Tie to All Test Environments (AI-ESTATE): Data and Knowledge Specification
130 pages • [1-55937-912-X] • [SH94521-NZT]
Price: $57.00 • IEEE Mbr: $39.90

**1387.3-1996** IEEE Standard for Information Technology—Portable Operating System Interface (POSIX®) System Administration—Part 3: User and Group Account Administration
140 pages • [1-55937-866-2] • [SH94472-NZT]
Price: $60.00 • IEEE Mbr: $42.00

**2003.2-1996** IEEE Standard for Information Technology—Test Methods for Measuring Conformance to POSIX®—Part 2: Shell and Utilities Interfaces
1408 pages • [1-55937-882-4] • [SH94488-NZT]
Price: $100.00 • IEEE Mbr: $70.00

## Power & Energy

**IEEE Electric Machinery Standards Collection, 1997 Edition**
696 pages • [1-55937-927-8] • [SC101-NZT]
Price: $ 195.00 • IEEE Mbr: $155.00

**515-1997** IEEE Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications
80 pages • [1-55937-914-6] • [SH94523-NZT]
Price: $60.00 • IEEE Mbr: $42.00

**857-1996** IEEE Recommended Practice for Test Procedures for High-Voltage Direct-Current Thyristor Valves
36 pages • [1-55937-876-X] • [SH94482-NZT]
Price: $50.00 • IEEE Mbr: $35.00

**1299/C62.22.1-1996** IEEE Guide for the Connection of Surge Arresters to Protect Insulated, Shielded Electric Power Cable Systems
40 pages • [1-55937-868-9] • [SH94474-NZT]
Price: $52.00 • IEEE Mbr: $36.40

**C37.59-1996** IEEE Standard Requirements for Conversion of Power Switchgear Equipment
24 pages • [1-55937-880-8] • [SH94486-NZT]
Price: $51.00 • IEEE Mbr: $35.70

**C57.16-1996** IEEE Standard Requirements, Terminology, and Test Code for Dry-Type Air-Core Series-Connected Reactors
96 pages • [1-55937-881-6] • [SH94487-NZT]
Price: $57.00 • IEEE Mbr: $39.90

**C62.34-1996** IEEE Standard for Performance of Low-Voltage Surge-Protective Devices (Secondary Arresters)
24 pages • [1-55937-874-3] • [SH94480-NZT]
Price: $50.00 • IEEE Mbr: $35.00

**C62.37-1996** IEEE Standard Test Specification for Thyristor Diode Surge Protective Devices
60 pages • [1-55937-897-2] • [SH94502-NZT]
Price: $54.00 • IEEE Mbr: $37.80

**C136.6-1997** American National Standard for Roadway Lighting Equipment—Metal Heads and Reflector Assemblies—Mechanical and Optical Interchangeability
12 pages • [1-55937-929-4] • [SH94534-NZT]
Price: $40.00 • IEEE Mbr: $28.00

**C136.16-1997** American National Standard for Roadway Lighting Equipment—Enclosed Post Top-Mounted Luminaires
8 pages • [1-55937-922-7] • [SH94529-NZT]
Price: $40.00 • IEEE Mbr: $28.00

**C136.17-1997** American National Standard for Roadway Lighting Equipment—Enclosed Side-Mounted Luminaires for Horizontal-Burning High-Intensity-Discharge Lamps—Mechanical Interchangeability of Refractors
12 pages • [1-55937-930-8] • [SH94535-NZT]
Price: $40.00 • IEEE Mbr: $28.00

**C136.19-1997** American National Standard for Roadway Lighting Equipment—High-Pressure Sodium Lamps—Guide for Selection
8 pages • [1-55937-921-9] [SH94530-NZT]
Price: $40.00 • IEEE Mbr: $28.00

# IEEE Standards Electronic Services

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the users of the standards.

On another front, delivery of the standards in networked electronic form is progressing, with our first commercial offering—the collection of LAN/MAN (802) standards. The Transmission & Distribution collection of Power Engineering standards and the Software Engineering collection are also scheduled for subscriber availability in 1997. As more collections of standards become available via the web, we will come closer to realizing our goal of having all our information available as an integrated, useful, flexible, and interrelated full-text database, constantly updated and accessible via the Internet.

In addition to serving our customers with state-of-the-art information delivery, this on-line library will also serve working groups as a powerful reference tool and development resource.

Another piece of the project—one that, if properly executed, will remain invisible to users of our systems and services—has been to alter the way in which information is developed and handled by staff. It sounds more straightforward than it is; we have found that it is a unique challenge to set up a process by which information gets created with electronic access as the primary goal. There are a lot of hidden traps in creating the elusive "paperless" operation, but the potential benefits make the effort worthwhile.

Increasingly, the aim of the Electronic Services staff is to become "transparent"—that is, to become a provider of infrastructure services to staff who in turn can provide enhanced services and products to authors and end-users. Put another way, the technical staff is intent on not becoming a bottleneck or a sole source of technology expertise, as happens too often. Even, or perhaps especially, in a technology-driven program such as this, the success rests on such non-technological issues as changing people's assumptions about information and how they create it, publish it, and use it. ◆

# IEEE STANDARDS BOARD ACTIONS

26 June 1997 — Cleveland, OH

## APPROVED PARS FOR NEW STANDARDS

**P1012a** (C/SE) Standard for Software Verification and Validation Plans—Content Map to IEEE 12207.1

**P1058a** (C/SE) Standard for Software Project Management Plans—Content Map to IEEE 12207.1

**P1062a** (C/SE) Recommended Practice for Software Acquisition—Content Map to IEEE 12207.1

**P1076.6** (C/DA) Standard for VHDL Register Transfer Level Synthesis

**P1233a** (C/SE) Guide to Developing Systems Requirements Specifications—Content Map to IEEE 12207.1

**P1329** (COM/T&A) Standard Method for Measuring Transmission Performance of Hands-Free Telephone Sets

**P1362a** (C/SE) Guide for Information Technology—System Definition—Concept of Operations Document—Content Map to IEEE 12207.1

**P1420.2** (C/SE) Standard for Information Technology—Software Reuse—Data Model for Reuse Library Interoperability: Bindings to HTML and SGML

**P1420.4** (C/SE) Standard for Information Technology—Software Life Cycle Processes—Reuse Processes

**P1471.1** (C/SE) Guide for Application of Architectural Description IEEE 1471

**P1500** (C/TT) Standard Testability Method for Embedded Core-based Integrated Circuits

**P1503** (IA/IPC) Standard Practices and Requirements for Semiconductor Power Rectifiers Greater Than 100kw

**P1504** (IA/IPC) Guide for the Specification and Application of Active Harmonic Filters Greater Than 10kw

**P1505** (IM/Con) Standard for Receiver/Fixture Interface Greater Than 10kw

**PC57.127** (PE/TR) Guide for the Detection of Acoustic Emissions from Partial Discharges in Oil-Immersed Power Transformers

**P62.2** (PE/EM and PE/I&M) Guide for Diagnostic Field Testing of Electric Power Apparatus—Electrical Machinery

## REVISED PARS

**P145** (AP/A) Standard Definitions of Terms for Antennas

**P420** (PE/NPE) Standard for the Design and Qualification of Class 1E Control Boards, Panels, and Racks Used in Nuclear Power Generating Stations

**P730** (C/SE) Standard for Software Quality Assurance Plans

**P802.2c** (C/LM) Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 2: Logical link control—Supplement 3: Conformance requirements

**P802.2f** (C/LM) Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 2: Logical link control—Supplement 6: Managed objects definition for logical link control (LIC)

**P802.2h** (C/LM) Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements—Part 2: Logical link control—Supplement 7: Optional toleration of duplicate information transfer format protocol data units (I PDUs)

## ABBREVIATIONS

| | |
|---|---|
| **AES/GA** | Aerospace & Electronic Systems/Gyro Accelerometer Panel |
| **AP/A** | Antennas & Propagation/Antennas |
| **AP/P** | Antennas & Propagation/Propagation |
| **C/DA** | Computer/Design Automation |
| **C/DIS** | Computer/Distributed Interactive Simulation |
| **C/LM** | Computer/Local & Metropolitan Area Networks |
| **C/MM** | Computer/Microprocessors & Microcomputers |
| **C/PA** | Computer/Portable Applications |
| **C/SE** | Computer/Software Engineering |
| **C/TT** | Computer/Test Technology |
| **COM/T&A** | Communications/Transmission & Access |
| **EMCS** | Electromagnetic Compatibility Society |
| **IA/IPC** | Industry Applications/Industrial Power Converter |
| **IA/PSE** | Industry Applications/Petroleum & Chemical |
| **IM/Con** | Instrumentation & Measurement/Connectors |
| **PE/EM** | Power Engineering/Electric Machinery |
| **PE/I&M** | Power Engineering/Instrumentation & Measurement |
| **PE/IC** | Power Engineering/Industrial Connectors |
| **PE/NPE** | Power Engineering/Nuclear Power Engineering |
| **PE/SUB** | Power Engineering/Substations |
| **PE/SWG** | Power Engineering/Switchgear |
| **PE/T&D** | Power Engineering/Transmission & Distribution |
| **PE/TR** | Power Engineering/Transformers Standards Coordinating Committee 28/Non-Ionizing Radiation |
| **SCC31** | Standards Coordinating Committee 31/Automatic Meter Reading & Energy Management |

**P802.3aa** (C/LM) Standard for Information Technology—Local and Metropolitan Area Networks—Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications—Maintenance Revision #5 (100BASE-T)

**P1003.23** (C/PA) Guide for Developing User Organization Open System Environment (OSE) Profiles

**P1028** (C/SE) Standard for Software Reviews

**P1278.4** (C/DIS) Recommended Practice for Distributed Interactive Simulation—Verification, Validation and Accreditation

**P1284.3** (C/MM) Standard for Interface and Protocol Extensions to IEEE Std 1284-1994 (Compliant Peripherals and Host Adapters

**P1284.4** (C/MM) Standard for Data Delivery and Logical Channels for IEEE Std 1284 Interfaces

**PC37.48** (PE/SWG) Guide for the Application, Operation and Maintenance of Hi-Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories

**PC95.1** (SCC28) Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 Ghz

**PC95.3** (SCC28) Recommended Practice for Measurements and Computations with Respect to Human Exposure to Electromagnetic Fields, 3 kHz to 300 Ghz

## PARS FOR STANDARDS REVISIONS

**P356** (AP/P) Guide for Radio Methods of Measuring Earth Conductivity

**P400** (PE/IC) Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems

**P400.1** (PE/IC) Guide for Making High-Direct-Voltage Tests on Shielded Power Cable Systems in the Field

**P802** (C/LM) Standard for LAN/MAN Local Area Network/Metropolitan Area Network: Overview and Architecture

**P987** (PE/T&D)Guide for the Application of Composite Insulators

**P1149.1** (C/TT) Standard Test Access Port and Boundary Scan Architecture

**PC37.14** (PE/SWG) Standard for Low-Voltage DC Power Circuit Breakers Used in Enclosures

**PC37.20.3** (PE/SWG) Standard for Metal-Enclosed Interrupter Switchgear

**PC37.71** (PE/SWG) Standard for Three-Phase Manually Operated Subsurface and Vault Load Interrupting Switches for Alternating Current Systems

**PC57.12.01** (PE/TR) Standard General Requirements for Dry-Type Distribution and Power Transformers Including Those with Solid Cast and/or Resin Encapsulated Windings

**PC57.12.40** (PE/TR) Standard Requirements for Secondary Network Transformers, Subway and Vault Types (Liquid Immersed)



## Chair's Message

(continued from page 2)

upon standards interests. At a luncheon discussion we get to explore the needs and feasibility of obtaining support of standards development for mass transit vehicular systems. At the IEEE legal counsel presentation, assurance is given that the much needed mechanism for electronic balloting on technical standards is indeed in concert with the Institute's Bylaws. And at a meeting with the IEEE Technical Activities Board (TAB) Caucus, an introduction to the objectives, infrastructure and benefits of the IEEE Standards Association is given.

It is through these and many other windows of opportunity that we can envision our forward progress into the 21st century as an IEEE Standards Association ready, willing and able to serve the IEEE, its Societies and Regions, and industry worldwide. ◆

**PC57.12.60** (PE/TR) Guide for Test Procedures for Thermal Evaluation of Insulation Systems for Solid Cast and Resin-Encapsulated Power and Distribution Transformers

**PC57.12.91** (PE/TR) Standard Test Code for Dry-Type Distribution and Power Transformers

## WITHDRAWN PARS

**P1003.1f** (C/PA) Standard for Information Technology—Portable Operating System Interfaces (POSIX®)—Part 1: Network-Transparent File Access

**P1003.1k** (C/PA) Standard for Information Technology—Portable Operating System Interfaces (POSIX®)—Part 1: System API Supplement - Removable Media Support

**P1003.2e** (C/PA) Standard for Information Technology—Portable Operating System Interfaces (POSIX®)—Part 2: Shell and Utilities—Removable Serial Media Support

**P1343** (PE/IC) Guide for Testing the Insulation of Shielded Power Cable Systems in the Field

## NEW STANDARDS

The draft standards highlighted below are available for sale while in production. You may order them through IEEE Customer Service at 1.800.678.IEEE *(in the US and Canada)* or 1.732.981.0060.

**P802.4h** (C/LM) Standard for Token Passing Bus Access Method and Physical Layer Specifications—Alternative use of BNC-connectors and Manchester Encoded Signaling Methods for Single Channel Bus Physical Layer Entities
[AD168-NZT] • $41.00 • IEEE Mbr: $33.00

**P802.11** (C/LM) Standard for Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications
[AD165-NZT] • $90.00 • IEEE Mbr: $72.00

**P1204** (PE/T&D) Guide for Planning DC Links Terminating at AC System Locations Having Low Short Circuit Capacities, Parts I and II
[AD175-NZT] • $60.00 • IEEE Mbr: $48.00

**P1243** (PE/T&D) Guide for Improving the Lightning Performance of Transmission Lines
[AD166-NZT] • $40.00 • IEEE Mbr: $35.00

**P1268** (PE/SUB) Guide for the Safe Installation of Mobile Substation Equipment
[AD171-NZT] • $43.00 • IEEE Mbr: $34.00

**P1276** (PE/TR) Trial-Use Guide for the Application of High Temperature Insulation Materials in Liquid-Immersed Power Transformers
[AD170-NZT] • $42.00 • IEEE Mbr: $34.00

**P1284.1** (C/MM) Standard for Information Technology for Transport Independent Printer/System Interface (TIP/SI)
[AD176-NZT] • $51.00 • IEEE Mbr: $41.00

**P1377** (SCC31) Standard for Utility Industry End Device Data Tables
[AD167-NZT] • $59.00 • IEEE Mbr: $47.00

**P1378** (PE/SUB) Guide for Commissioning High-Voltage Direct-Current Converter Stations and Associated Transmission Systems
[AD178-NZT] • $48.00 • IEEE Mbr: $ 38.00

**P1410** (PE/T&D) Guide for Improving the Lightning Performance of Electric Power Overhead Distribution Lines
[AD169-NZT] • $40.00 • IEEE Mbr: $35.00

## REVISED STANDARDS

**P692** (PE/NPE) Standard Criteria For Security Systems for Nuclear Power Generating Stations
[AD173-NZT] • $42.00 • IEEE Mbr: $34.00

**P741** (PE/NPE) Standard Criteria for the Protection of Class 1E Power Systems and Equipment in Nuclear Power Generating Stations
[AD172-NZT] • $44.00 • IEEE Mbr: $35.00

**PC37.48** (PE/SWG) Guide for Application, Operation, and Maintenance of High-Voltage Fuses, Distribution on Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories
[AD177-NZT] • $45.00 • IEEE Mbr: $36.00

## REAFFIRMATION

**241-1990** (IA/PSE) IEEE Recommended Practice for Electrical Power Systems Commercial Buildings

**377-1980** (EMCS) IEEE Recommended Practice for Measurement of Spurious Emission from Land-Mobile Communication Transmitters

**473-1985** (EMCS) IEEE Recommended Practice for an Electromagnetic Site Survey (10 kHz to 10 Ghz)

**671-1985** (AES/GA) IEEE Standard Specification Format Guide and Test Procedure for Nongyroscope Inertial Angular Sensors: Jerk, Acceleration, Velocity, and Displacement

**836-1991** (AES/GA) IEEE Recommended Practice for Precision Centrifuge Testing of Linear Accelerometers

**C37.66-1966** (PE/SWG) Requirements for Oil-Filled Capacitor Switches for Alternating Current Systems

**C57.19.00-1991** (PE/TR) IEEE Standard General Requirements and Test Procedure for Outdoor Power Apparatus Bushings

**C57.19.01-1991** (PE/TR) IEEE Standard Performance Characteristics and Dimensions for Outdoor Apparatus Bushings

## BOARD ACTIONS NEWS FLASH

The IEEE Standards Board meeting took place in Cleveland, OH US during the week of 23 June 1997. The following items highlight some noteworthy actions and events:

The Standards Board approved the launch of the first IEEE Standards Association (IEEE-SA) membership campaign. Information about the IEEE-SA can be found on our Web side at http://standards.ieee.org/. If you would like to receive a print version of the membership package, please email ieee-sa@ieee.org or call 1.732.562. 3836.

The Standards Board finalized details for the September 1997 meeting that will be held in Mexico City, 16 September 1997. Immediately following the Standards Board meeting, the IEEE Standards Board will be hosting the IEEE Standards Congress, scheduled for 17-18 September. The overall program is a combination of technical seminars and a high-level plenary session on "Partnering Neighbors: Applying and Developing IEEE Standards." At the plenary session, the panelists and audience will be exploring how Mexico industry might become more involved and influential in IEEE standards development.

If you are interested in participating in the events, please email t.steenweg@ieee.org or call 1.732.562.3836.

The Standards Board confirmed that the September 1996 version of the IEEE Standards Board Working Guide and Form for Submittal of Proposed Standards must be used. Projects submitted on the old form will not be accepted. For a copy of the form please email p.blash@ieee.org or call 1.732.562.3806.

## WITHDRAWN

**500-1984** (PE/NPE) IEEE Guide to the Collection and Presentation of Electrical, Electronics, Sensing Component and Mechanical Equipment Reliability Data for Nuclear Power Generating Stations

# CONGRATULATIONS

## AWARDS SPOTLIGHT

*The IEEE Standards Board formally congratulates the officers, as well as their working groups, on the publication of the following standards.*

**Dennis Bodson,** Chair; **Stephen Urban,** Technical Editor; *167A.2-1996* IEEE Standard Facsimile Test Chart: High Contrast (Gray Scale)

**R. H. Hulett,** Chair; **D. O. Brown,** Secretary; *515-1997* IEEE Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications

**Hugh O. Nash, Jr.,** Chair; *602-1996* IEEE Recommended Practice for Electrical Systems in Health Care Facilities (IEEE White Book)

**William Lidinsky,** Chair; **Alan Chambers,** Technical Editor; *802.1j-1996* Supplement to Information technology—Telecommunications and information exchange between systems—Local area networks—Media access control (MAC) bridges: Managed objects for MAC bridges

**Kenneth G. Alonge,** Chair; **Richard McAllister,** Technical Editor; *802.10h-1997* IEEE Standards for Local and Metropolitan Area Networks: Supplement to Interoperable LAN/MAN Security (SILS)—Secure Data Exchange (SDE): Protocol Implementation Conformance Statement (PICS) Proforma (Annex 2L)

**Pat Thaler,** Chair; **William G. Lane,** Technical Editor; **Alan Albrecht,** Task Force Chair; *802.12d-1997,* IEEE Standards for Local and Metropolitan Area Networks: Supplement to Demand Priority Access Method, Physical Layer and Repeater Specifications: Redundant Links

**C. Tim Wu,** Chair; **John J. Vithayathil,** Vice Chair; *857-1996* IEEE Recommended Practice for Test Procedures for High-Voltage Direct-Current Thyristor Valves

**William Schneider,** Chair; **Gary A. Gardner,** Vice Chair; *896.10-1997* IEEE Standard for Futurebus+® Spaceborne Systems—Profile S

**Michael Blair,** Chair; *993-1997* IEEE Standard for Test Equipment Description Language (TEDL)

**Alex Zamfirescu,** Chair; *1076.3-1997* IEEE Standard VHDL Synthesis Packages

**William Schneider,** Chair; **Ed Marian,** Technical Editor; *1156.4-1997* IEEE Standard for Environmental Specifications for Spaceborne Computer Modules

**John W. Sheppard, Gregory Bowman,** Working Group Co-Chairs; **Leslie Orlidge, Helmut Scheibenzuber,** Subcommittee Co-Chairs; *1232.1-1997,* IEEE Trial-Use Standard for Artificial Intelligence Exchange and Service Tie to All Test Environments (AI-ESTATE): Data and Knowledge Specification

**Jeff Mackevich,** Chair; *1299/C62.22.1-1996* IEEE Guide for the Connection of Surge Arresters to Protect Insulated, Shielded Electric Power Cable Systems

**Louis Imershein,** Chair; **Michael E. Browne,** Technical Editor; *1387.3-1996* IEEE Standard for Information Technology—Portable Operating System Interface (POSIX®) System Administration—Part 3: User and Group Account Administration

**Lowell Johnson,** Chair; **Andrew Twigger,** Technical Editor; *2003.2-1996* IEEE Standard for Information Technology—Test Methods for Measuring Conformance to POSIX®—Part 2: Shell and Utilities Interfaces

**Peter W. Dwyer,** Chair; *C37.59-1996* IEEE Standard Requirements for Conversion of Power Switchgear Equipment

**Richard F. Dudley,** Chair; C57.16-1996 IEEE Standard Requirements, Terminology, and Test Code for Dry-Type Air-Core Series-Connected Reactors

**Joe Osterhout,** Chair; *C62.34-1996* IEEE Standard for Performance of Low-Voltage Surge-Protective Devices (Secondary Arresters)

**Richard Odenberg,** Chair; **Mick Maytum,** Technical Editor; *C62.37-1996* IEEE Standard Test Specification for Thyristor Diode Surge Protective Devices

**William A. Maguire,** Chair; *C136.6-1997* American National Standard for Roadway Lighting Equipment—Metal Heads and Reflector Assemblies—Mechanical and Optical Interchangeability

**Greg Steinman,** Chair; *C136.16-1997* American National Standard for Roadway Lighting Equipment—Enclosed Post Top-Mounted Luminaires

**Greg Steinman,** Chair; *C136.17-1997* American National Standard for Roadway Lighting Equipment—Enclosed Side-Mounted Luminaires for Horizontal-Burning High-Intensity-Discharge Lamps—Mechanical Interchangeability of Refractors

# IEEE's New Product Development Process

*by Judy Gorman*

For the past year, a team of IEEE employees, commissioned by Executive Director Dan Senese, has been working together on an integrated product development process for the Institute's products and services. To facilitate implementation, the group also defined the roles and responsibilities of all the identifiable players, including the idea generator, volunteer sponsor, product line manager, product manager, and marketing manager.

Some of the key features of this new plan are:

- establishment of an idea generation mechanism that will encourage broad participation
- the planning of a targeted market research function, to ensure that product plans are based on data and the necessary business decisions that derive from that
- a monthly marketing forum, which will bring key individuals together to debate, discuss, and communicate on product and service issues affecting the Institute
- the delegation of significant authority and accountability to the product managers on the success or failure of products and services
- a rigorous, yet flexible, defined process for shepherding an idea through the necessary steps to ensure good business decisions on products and services for our members and customers

Implementation is currently underway, beginning with educating staff and volunteer groups. In addition, staff departments are taking a hard look at their defined roles and responsibilities to strive for clearer definitions of accountability and more sharply defined job assignments. This promises to make future projects, especially those of a broad scope, better conceived and managed in the Institute.

The team's efforts display one of Director Senese's ultimate goals for IEEE: data-driven decisions with market planning before product launch. Member and customer needs will be better anticipated and understood. And finally, this new process encourages teamwork among IEEE staff and volunteers as well as innovative thinking for product ideas that will service our members and customers for years to come. ◆



# European Directives for Medical Devices

*by Karen McCabe in association with SWBC (Organization for the European Conformity of Products)*

In the European Union (EC), medical devices are the subject of new, sweeping regulations. Because of the risks associated with the use of these devices, stringent requirements are being set for technical safety, sterility and biocompatibility of the devices. The European directives covering medical devices have a significant impact on medical device products manufactured in the US. Medical devices affected by the directives that do not conform with the essential requirements are not eligible for the CE Mark and cannot be sold or used in the European Economic Area (EEA).

In order to place products in the European Community (EC), US manufacturers have to declare that their products meet the provisions of pertinent directives. Currently, there are two directives that have considerable consequences for manufacturers and traders who wish to bring their medical devices into the European Union market.

## Directive on Medical Devices (93/42/EEC)

The Directive on Medical Devices is applicable to a wide variety of products. All kinds of hospital equipment, such as syringes, infusion pumps and instruments for surgery, are covered under this directive. The directive is also applicable to aids for the handicapped and non-active surgical implants, such as cardiac and vascular implants and joint replacements. This directive was implemented 1 January 1995, with a transition period until 14 June 1998.

## Directive on Active Implantable Electro-Medical Devices (90/385/EEC)

The Directive on Active Implantable Electro-Medical Devices applies to all medical devices that are powered by an electrical energy source and that are intended to be implanted in the human body. This directive has been in force since 1 January 1995 and is closely related to the Directive on Medical Devices. Implantable products such as neurostimulators, infusion pumps and defibrillators are covered by this directive, as are the accessories and software necessary for the proper use of these products.

The fundamental aim of both directives is to ensure that medical devices comply with essential requirements of relevant harmonized European standards (EN standards) concerning the safety and the operation of the medical devices/active implants—regardless of whether or not a Notified Body participates in the CE Marking.

The requirements called out in the directives fall into two categories;

(1) general requirements and

(2) requirements regarding the design and construction of the medical devices/active implants.

The preambles to the directives assert that the essential requirements must be interpreted and applied in accordance with existing technology and practice, and that technical and economic considerations must be balanced against concern for the protection of health and safety. A list of the essential requirements and a description of how they have been fulfilled and checked must be included in the technical file prepared for a device.

The determination whether a medical device meets the EN standards takes place during a conformity assessment process. Because not all medical devices need to meet rigorous procedures in order to be entered into the European market, medical devices are categorized into four risk classes, high risk (class III), average risk (class II a and II b) and low risk (class I). High risk medical devices must comply with more stringent entry procedures than average or low risk medical devices.



# EUI-64

*(continued from page 4)*

consumption by limiting the use of the OUI-based identifiers, the IEEE/RAC chose to define a larger 64-bit Extended Unique Identifier (EUI-64).

With the larger EUI-64 values, the most significant 24 bits (called the company_id) identifies the company; the less significant 40-bit extension identifiers are uniquely assigned by that company. Although the OUI and company_id represent the same number assignment, the distinct "company_id" name is used to avoid confusion with pre-existing OUI related bit and byte ordering conventions.

The EUI-64 value allows each company up to a 40-bit number. Few companies are expected to consume their 40-bit numbers, since this corresponds to $500 billion in sales if each number-containing product costs only 50 cents. Based on this economic argument, the IEEE/RAC is no longer concerned with EUI-64 number consumption. New applications are still reviewed by the IEEE/RAC, to resolve ambiguities in the applicable specifications and tutorials, rather than to limit the EUI-64 application space.

## Distribution

Large-volume vendors are expected to purchase their company_id from the IEEE, allowing them to generate EUI-64 numbers by postpending their 40-bit extension identifiers. This strategy is applicable to high-volume applications, particularly if the EUI-64 can be incorporated into existing customizable ROM or WOM (write once memory) components.

Other companies may prefer to purchase discrete EUI-64 parts from others, to eliminate the need to purchase their own company_id value or to administer their 40-bit extension identifier assignments.

For example, Dallas Semiconductor now sells a distinct version of their WOM parts, initialized with distinct EUI-64 values. The company_id contained within these parts represents the value assigned to Dallas Semiconductor, not the vendor of the electronic device, so the same inventory can be sold to multiple customers.

## The Future

The IEEE/RAC recommends the use of the EUI-64 within new standards, although 48-bit identifiers are used within several established standards. The larger 64-bit identifier eliminates the IEEE/RAC's number-consumption concerns, allowing the most inexpensive electronically controlled devices (including remotely controlled toys or toasters) to be uniquely identified. Although the electronic toaster may seem farfetched, similar volumes of cellular phones may be uniquely identified in the not-too-distant future.

For further details, please visit the following web page:
http://www.standards.ieee.org/db/oui/tutorials/EUI64.html ◆

# The Year 2000 Test Standards

*by Lowell Johnson*

The Portable Applications Standards Committee (PASC) has created a Year 2000 study group to evaluate what standards would be useful for testing in this area. At the first meeting held 15-16 April 1997, during the quarterly PASC meeting, the group discussed possible Year 2000 topics for standardization.

The group quickly concluded that it would be difficult or impossible to write a standard for the processes involved in testing because of the wide variety of software and hardware environments that exist. In some environments, a software tool that inputs a variety of dates and formats may be adequate (at least for a majority of the testing). However, some hardware and software platforms may need a customized test harness or may even require special hooks to be put into the operating system. There are consultants and tools for specific environments that can help with this problem.

It should be possible to list the situations to test when verifying that a system and its applications behave properly as we approach, and pass, the year 2000. The first and largest project proposed will generate this list, most likely in the form of test assertions. It was suggested that the test assertions format developed in IEEE Std 1003-1991 (POSIX Test Methods) be followed.

The obvious tests will include lists of different dates and date formats that should be tested to verify that the year 2000 rollover does not cause problems. However, it was evident early in the discussions that there were many other situations that needed to be tested. These range from very specific hardware-dependent problems to very generic problems.

For example, a database application may have been "fixed" in 1992 to work properly using 4 digit years, but what happens on 1 March 2000, when older archived data is referenced from 29 February 1988, and the application tries to count the number of days? All the archived data may have been converted, but more likely, a patch was installed to intercept the data and make the conversion on the fly. What happens if the software assumes large years (for example >60) are 19xx, but the dates in questions are now 1 March 2084 and 28 February 2078.

It was agreed that the standard developed would not necessarily have to limit itself to 1 January 2000, although that will be the most important area of testing. Included will be related date anomalies that should be tested (separately or in conjunction with the year 2000) such as the special case of the February leap day in 2000. The group also agreed that small time adjustments, such as leap minutes or leap seconds, would NOT be addressed in the standard. However, the door has been left open to address other rollover date and time problems, such as 2037 for UNIX® platforms.

The study group agreed that a separate small project should be created that would be geared for very fast completion and would contain terms and definitions used in the first standard (and probably useful in other areas as as well). The rationale for a separate project was to allow it to be completed much more quickly than the test methods project.

These proposed standards were discussed at the International Symposium on the Year 2000, 9-10 July 1997, at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD. On 10 July 1997, a separate "track" to actually begin work on the standards and to attract additional people interested in this problem to join the project was held.

The last meeting of the study group was held 15-17 July in Nashua, NH, since if either projects are approved, future meetings will be of the official standards working groups. If not approved, work on the projects will terminate. Please look to future issues of the Standards Bearer for updates on these projects.

For more information, please contact Alison Annett at a.annett@computer.org or 1. 202. 372. 1013. ◆

# NEWS

## MSC Authorizes Study Group

At it's April meeting, the IEEE Microprocessor Standards Committee (MSC) authorized the formation of a study group to assess the feasibility and industry interest in a standard(s) that would allow digital signal processors (DSPs) to reside right on a personal computer's memory modules. The close proximity to and interaction with the computer's physical memory would allow the DSP to take full advantage of the maximum bandwidth between memory and DSP without having to worry about the much slower systems buses.

All those interested in developing such standards should contact the convenor of the study group, Faj Pawate at pawate@trdc.ti.com or Fax 81. 298. 50.1729.

MSC meets regularly in Palo Alta, CA, and is responsible for a variety of microprocessor-related hardware and software standards, including IEEE Std 754 (floating point), IEEE Std 1596 (Scalable Coherent Interface) and IEEE Std 1284 (Parallel Printer Bus). The chair of the MSC is Dr. David Gustavson, dbg@SCIzzL.com.

## IEEE Hosts Delegation for an Exploration of Standards

On 3 June, IEEE hosted a 21-member power generation delegation from Russia and other newly independent states for an exploration of IEEE standards.

The delegation included directors and managers of power generation companies, research and energy efficiency institutes, metrology and certification labs, standards organizations and regional network heads.

Andy Salem, Managing Director of the IEEE Standards Department, demonstrated how the Power Engineering Society standards will look and interact on-line. Chuck Amrhyn, Chair of the National Electrical Safety Code® (NESC) Committee, explained how the voluntary standards process is used to develop standards that are then adopted as regulation in most US states. Each delegate was presented with the new CD-ROM version of the 1997 NESC.

*(continued on next page)*

# ASTM E 380 and IEEE Std 268 Merge to Form Unified Metric Standard

*by Bruce Barrow*

On 1 April 1997, following several years of effort by the sponsoring metric practice committees of the American Society of Testing and Materials (ASTM) and the IEEE, both organizations and the American National Standards Institute (ANSI) approved a unified national metric standard. The two major American standards on the subject, ASTM E 380 and IEEE Std 268, have successfully been merged and are superseded by the new document.

IEEE/ASTM SI 10-1997, *Standard for Use of the International System of Units (SI): The Modern Metric System* is now available. IEEE/ASTM SI 10 conforms in substance to the latest international recommendations. It incorporates the 1995 decision of the General Conference on Weights and Measures to treat the radian and steradian as derived SI units. In those few areas where it differs from international recommendations, IEEE/ASTM SI 10 permits less deviation from strict SI practice. For example, IEEE/ASTM SI 10 limits the use of the bar to the field of meteorology, and lists the angstrom and the gal as units that are "not to be used." These three units, which are not SI units, are still accepted "temporarily" in the international standards arena. IEEE standards developing committees, which are required by policy to use metric units, will find IEEE/ASTM SI 10 easy to work with. The technical differences between the old and new metric standards are not large. But IEEE/ASTM SI 10 contains many editorial improvements, and the International System of Units, which was invented with major contributions from electrical engineers, fits IEEE's requirements very well. ◆





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## IEEE Standards Assumes Responsibility for Ethernet Type Field Registration

Xerox Corp. and IEEE have signed a transfer agreement that gives IEEE the responsibility for Ethernet Type Field registration. In anticipation of the publication of P802.3x, the IEEE Standards Department approached IBM for the transfer.

Xerox Corp. will continue to register the Ethernet Type Fields until the IEEE Registration Authority has policies and procedures in place to administer the new authority, which should be by September. For more information email a.ricketts@ieee.org or call 1.732-562-3847.

## IEEE RAC Granted International Code by ISO Council and BSI

The IEEE Registration Authority Committee (RAC) recently was granted an International Code Designator code by the ISO (International Standards Organization) Council and British Standards Institute (BSI). The code allocated to IEEE is 0111.

This assignment was processed by the IEEE at the request of the Society of Motion Picture and Television Engineers (SMPTE).

The working group that developed SMPTE Draft Standard 298M: Universal Labels for Unique Identification of Digital Data for television, supports the use of the IEEE OUI/Company_id in the application of the standard. The standard also supports the SMPTE registration authority as well as several others around the world. In order for implementors of the standard to have the option of using the IEEE OUI for Universal Labels, the IEEE RAC needed an ICD code for ISO. For more information email a.ricketts@ieee.org or call 1.732.562-3847 ◆

# CALENDAR

## OF EVENTS

### August

**1** *PAR and DRAFT submission deadline for the September Standards Board Meeting*

**22-23** **Accredited Standards Committee on Electromagnetic Compatibility Steering Committee and Main Committee only (C63)** *(Held in conjunction with the EMCS Symposium)*
Austin, TX
contact: Rosemary Tennis,
1.732.562.3811, r.tennis@ieee.org
Fax: 1.732.562.1571

### September

**9-17** **Industry Applications Society Petroleum and Chemical Industry Technical Conference**
Banff, Alberta, Canada
contact: Richard Gallant,
1.403.237.3511; Fax: 1.403.237.2201

**14-15** **Standards Board Committee Meetings**
Four Seasons Hotel, Mexico City
contact: Terry Steenweg,
1.732.562.3836, t.steenweg@ieee.org
Fax: 1.732.562.1571

**16** **Standards Board Meeting**
Four Seasons Hotel, Mexico City
contact: Terry Steenweg,
1.732.562.3836, t.steenweg@ieee.org
Fax: 1.732.562.1571

**17-19** **IEEE Standards Congress**
Four Seasons Hotel, Mexico City
contact: Terry Steenweg,
1.732.562.3836, t.steenweg@ieee.org
Fax: 1.732.562.1571

**29-Oct. 1** **C136 Roadway Lighting Equipment Committee, Subcommittees and Task Groups**
Montreal, Canada
contact: Rosemary Tennis
1.732.562.3811, r.tennis@ieee.org
Fax: 1.732.562.1571

### October

**2-6** **Industrial Applications Society Annual Meeting**
New Orleans, LA
contact: William Lannes
University of New Orleans,
1.504.286.6327

**13-17** **Portable Applications Standards Committee Meeting**
Reno, NV
contact: Allison Annett
IEEE Computer Society
1.202.371.1013,
a.annett@computer.org
Fax: 1.202.728.0884

**31** *PAR and DRAFT submission deadline for the December Standards Board Meeting*

### November

**9-12** **SCC32 Intelligent Transportation Systems Meeting**
Boston Park Plaza Hotel, Boston, MA
contact: Rosemary Tennis,
1.732.562.3811, r.tennis@ieee.org
Fax: 1.732.562.1571

**9-12** **IEEE Conference on Intelligent Transportation Systems (ITSC '97)**
Boston Park Plaza Hotel, Boston, MA
contact: www.ieee.org/itsc97

**10-14** **LAN/MAN Standards Committee Meeting**
Queen Elizabeth, Montreal, PQ
contact: Classic Consulting,
1.604.464.6033
72630.107@compuserve.com
Fax: 1.604.464.6034

### December

**7-8** **Standards Board Committee Meetings**
New York City
contact: Terry Steenweg,
1.732.562.3836, t.steenweg@ieee.org
Fax: 1.732.562.1571

**9** **Standards Board Meeting**
Southgate Tower, New York City
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