Report of Vice President for Standardization Activities
Jim Moore, 25 January 2003

I want to thank the previous Vice-President, Lowell Johnson, for his active assistance in helping me prepare for this job. My thanks also go to the SAB Secretary, John Walz, and the SAB Volunteer Services Coordinator, John Daniel, for their assistance.

For the January Planning Conference, I, like other Board Chairs, was asked for the key challenges and opportunities that confront my program board in 2003 and beyond. For the Standardization Activities Board, I replied:

- Declining relevance of \textit{de jure} standardization in the information technology professions, contrasted with an increasing need for professional norms.
- Broadening the international impact of the standardization efforts of the Computer Society.
- Simplifying standardization for small producers.

In this report, I will describe my hopes for SAB response to each of these challenges.

\textbf{Declining relevance of \textit{de jure} standardization in the information technologies professions, contrasted with an increasing need for professional norms:}

Even as the application of Information Technology places greater dependence upon interoperability and dependability to serve our needs, we see a decline in the \textit{de jure} standardization activities that provide the agreements for products and professional conduct. The problem may be an increasingly legalistic standards process that fails to meet the community's need for responsiveness in many areas, and which is viewed as a problem rather than a solution by many participants. If so, it would be appropriate for the Computer Society to take a broader view of professional agreements to encompass a variety of processes and products—some very light in weight. In this view, standardization would be one tool suitable for cornerstone documents of long-life and great stability, while simple agreements at periodic workshops might be another tool suitable in rapidly evolving disciplines. I have asked Jim Isaak to investigate and identify opportunities for workshop agreements. Jim is initially looking at the "design patterns" community. A successful initiative in this area will require cooperation between SAB and TAB, and perhaps other program boards. We already have one good example of success—the Software Engineering Body of Knowledge was developed using an agreement process that was not standard-oriented. (Of course, the SWEBOK process was not an example of light weight.)

In applying the concept of lightweight norms to professional conduct, we find ourselves requiring a better model for the needs of practitioners and other members. Of course, I'm not the first to recognize this; the TIP White Paper defined \textit{personalization} as "the computer attempts to serve information on pages according to some model of the user's needs." I propose to generalize and elevate the definition—"the Computer Society provides products and services according to some model of the user's needs." Although product and service providers within CS might cut across member roles, the products and services would be designed, measured and evaluated against models of CS member roles. A possible set of roles might include Researcher, Educator, Practitioner and Student.

In his book \textbf{After the Gold Rush}, Steve McConnell, the former editor of \textit{Software}, provides an initial rudimentary model of a Practitioner. The Practitioner begins with a period of formal education (the hand-off from the Student role), goes through a period of skills development under the supervision of more experienced Practitioners, leading up to licensing or certification or some other form of professional recognition, resulting in full professional status marked by continuing education. This model is supported by an infrastructure provided by professional societies. In the table below, I have listed categories of infrastructure support and example products:

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<th>Infrastructure provided by professional societies</th>
<th>Examples of products and services provided by IEEE Computer Society</th>
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<tr>
<td>Agreed body of knowledge</td>
<td>SWEBOK</td>
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Literature suitable for direct application | Software, IT Pro
Interaction with peers | Chapters, Electronic communities
Professional training | Distinguished Visitor Program, Distance learning
Design solutions | Standards
Practice norms | "Best practices"
Ethical norms | Code of Ethics
Professional certification | Certified Software Development Professional

Measuring ourselves based upon modeling our members would require some fundamental changes in the way the Computer Society organizes and conducts its business. Fortunately, SAB provides a ready-made viewpoint that is already almost fully focused on practitioners, giving us an opportunity for pilot experimentation. To make initial progress, I have appointed Kathy Land as our liaison to the Professional Practices Committee. I am looking for a person interested in serving as liaison to CS TAB. Jim Isaak will serve as our liaison to IEEE TAB.

**Broadening the international impact of the standardization efforts of the Computer Society:**

The impact of the Computer Society on international standardization has been growing. The wide variety of professional services offered by the Computer Society to a membership nearly evenly divided between US and non-US residents, has attracted the attention of the international standards community. Many of the CS standards sponsors already have some form of relationship with international standardizers. In 1999, ISO/IEC JTC1/SC7 (Software and Systems Engineering) granted Category A Liaison to the Computer Society—not just to SESC—because it desired access to the broad range of Computer Society activities. Currently JTC1—the top international body of information technology standards—is conducting a "technology watch" to look for relationships with technology producers. We hope to extend the existing Category A Liaison relationship to encompass a wide variety of technology-based activities in the Computer Society. To that end, I have invited François Coallier, the leader of the JTC1 Technology Watch initiative, to join the SAB. John Walz has initiated a mapping of activities between TAB and SAB as an initial input to the Technology Watch. To succeed in this effort, we need the active participation of our standards sponsors. Perhaps more importantly, though, we need active participation from TAB and other CS boards who are not involved in traditional standardization. Volunteers are needed.

**Simplifying standardization for small producers:**

There's a huge gap in the output from large sponsors of standards and the smaller ones. I believe that this occurs because of the large administrative overhead required to negotiate the standardization process. Smaller sponsors simply fall short of accomplishing the minimum overhead requirements, causing them to give up or never finish. SAB cannot solve this problem, but we can do our part. I have asked Robby Robson to conduct an experiment in simplifying the SAB P&P. He will prototype the possibility of separating the document into two parts: one providing a P&P for SAB itself; and one providing a simplified default, low-overhead P&P for a small sponsor. I have also appointed Kathy Land as Vitality Chair with one mission—to talk with our smaller sponsors to determine what we can do to make them more productive.

I also believe that successful implementation of light-weight agreement methods would permit many of our sponsors to more productively reach agreements, even if less formal than traditional standards.

**Some Business as Usual:**

Of course, not everything before the SAB is novel. I am happy to announce that John Walz has agreed to continue serving as SAB Secretary and that Gary Robinson has agreed to serve as Vice-Chair. Don Wright and Fiorenza Albert-Howard have agreed to serve as Members-at-Large. (I am permitted to appoint
additional persons as Members-at-Large; let me know if you are interested.) I am pleased that John Daniel will continue to support SAB as the Volunteer Services Coordinator.

The purpose of SAB is to serve the standards sponsors in the Computer Society. Currently, I anticipate that the sponsors will be represented by: Jack Cole (SSSC), Paul Croll (SESC), Greg Maston (TTSC), Bob Davis (MSC), Paul Eastman (SAB-sponsored projects), Lowell Johnson (PASC), Paul Menchini (DASC), Paul Nikolich (LMSC), Robby Robson (LTSC), John Sheppard (SCC20), and Phil Zimmerman (SISC). By the time of our first meeting, I anticipate approval of a new sponsor, the Information Assurance Standards Committee, initially represented by Jack Cole.

Computer Society standards sponsors (and SAB itself) have a dual-reporting responsibility because of the role of the IEEE Standards Association as the promoter of all IEEE standardization efforts. The President-Elect of IEEE-SA, Jim Carlo, will serve as an ex-officio member of SAB and the Standards Board Chair, Don Wright, will serve as a Member-at-Large. Lowell Johnson will serve as the SAB liaison to IEEE-SA. Fortunately, we also get help from IEEE-SA staff. Susan Tatiner plans to attend our meetings and Bob Pritchard will serve as SAB liaison to JTC1 TAG.

A little bit of administrative work is required. It is apparent that the Computer Society By-Laws and P&P for SAB are obsolescent. A simple revision will fix some obvious problems.

Finally, the awards process is broken for standards participants. There are few nominations for the Computer Society Awards—both the unnamed awards like Outstanding Contribution, and the named award set aside for standardization, the Hans Karlsson Award. In talking with sponsors, I have determined that the awards process is perceived as tedious—perhaps because Awards Committee members are unfamiliar with standards activities and are ill-equipped to compare them with other technical activities of the Computer Society. To that end, I have resubmitted to the Awards Committee a proposal previously approved by SAB that categorizes the unnamed awards and sets criteria for their achievement. If approved by the Awards Committee, awards that fall within the guidelines would be granted routinely with no need for follow-up documentation. On the other hand, we still need an articulate and dedicated advocate for the Hans Karlsson Award.