Pushing Forward into the Third Millennium

Benjamin W. Wah, IEEE Computer Society President

I n this, the first issue of *Computer* for 2001, I am pleased to welcome all new and continuing members of the IEEE Computer Society. In keeping with our Society's vision to be the leading provider of technical information and services to the world's computing professionals, we begin this year with a commitment to continue providing products and services that will be beneficial to you in your careers as computer and IT professionals.

2000 ACCOMPLISHMENTS

Under the leadership of 2000 President Guylaine M. Pollock, our Society made significant progress last year in many areas. Specific areas to note include the launch of the Computer Society International Design Competition, software engineering initiatives, Curricula 2001, and virtual community efforts.

International Design Competition

The first Computer Society International Design Competition was held last year and was a success. More than 180 teams applied to be among the 50 teams invited to participate in the contest in which students were instructed to design a viable healthcare information appliance. A team of engineering students from McMaster University (Hamilton, Ontario, Canada) won first place, with the second and third places going to the National Taiwan University (Taipei) and the Technical University of Poznan (Poland), respectively.

We are very pleased by the active participation of many student teams and their advisors. We are indebted to the dedicated efforts of many volunteers and staff who put in extra time. Special thanks go to Past President Bruce Shriver, who conceived the idea and led the committee in 1999 to raise $500,000 to fund the first three years

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of the competition. Industry giants AMD, Hewlett-Packard, Intel, Lucent Technologies, Microsoft, Motorola, SAIC, Sun Microsystems, and the US National Science Foundation provided financial support. Further, the CSIDC technology sponsors—AMD, Calluna Technology, Central Software, M-Systems, Metrowerks, Microsoft, Pervasive Software, QNX, and Versalogic—provided state-of-the-art technology components for the competition's project kits.

Alan Clements is the chair of this year's event, which culminates in a world finals live demonstration in Washington, D.C., in June. Ron Waxman will be in charge of funding efforts to carry on this event in the future. We hope you will lend your support to this exciting challenge for our students.

Software engineering initiatives

Under the leadership of Past President Leonard Tripp, the Society has made major progress in our software engineering initiatives.

Review of the *Guide to the Software Engineering Body of Knowledge* (SWEBOK) draft was completed in July. The SWEBOK guide outlines and categorizes what software engineers should know, establishes the boundaries for software engineering as a unique profession, promotes a consistent global view of software engineering, and provides the bases for university curricula and for licensing or certification. A total of 376 invited reviewers submitted feedback on the guide, and the 3,500 comments received will help the committee prepare a final version to submit to the Society Board of Governors for approval later this year. Not only is this document significant in its own right, but we also expect to use it as a model as we develop bodies of knowledge for other computer-related topics.

Recognizing that consumers value certification of practitioners in numerous established professions, the Computer Society's Professional Practices Committee has been working for some time on a competency recognition program that will provide certification to qualified software engineering professionals. In November 2000, volunteers involved with the program attended a workshop to build two 150-question tests to be used as part of the certification evaluation materials. The committee expects to hold a Pilot Testing Workshop in March 2001 and to begin testing applicants for the IEEE Computer Society Certified Software Engineering Professional credential in June.

Curricula 2001

To best serve educators in computer science and engineering, the Computer Society and the Association for Computing Machinery have, for more than 20 years, made model curriculum guidelines available to colleges and universities. The latest update, Curricula 2001, will comprise four volumes on computing (a general overview), computer science, computer engineering, and software engineering. The Computer Society/ACM Curricula 2001 Steering Committee, under the leadership of Carl Chang and Jerry Engel from the Society and Eric Roberts and Russ Shackelford from the ACM, is responsible for developing the first three volumes; the Software Eng-ineering Education Project will develop the fourth.

Virtual communities

Recognizing that computer professionals are doing more communication and information sharing on the Web, the Society's Membership Committee funded four volunteer-led virtual community projects last February. Intended as pilot programs to provide specialized online forums for members, the four communities address issues in distributed systems, computing in science and engineering, software engineering, and the design and test of computers. These communities offer peer-reviewed articles and easy access to targeted publications from the Computer Society and other sources. Each focuses on slightly different aspects of developing virtual communities.

IEEE Distributed Systems Online, a broad collection of interviews, essays, peer-reviewed articles, and news and event announcements, enhances professional awareness of developments, activities, and electronic material in the distributed systems arena. DS Online currently offers resource pages on cluster computing, distributed agents, grid computing, middleware, operating systems, real-time and embedded systems, distributed databases, distributed multimedia, security, mobile and wireless systems, and dependable systems.

The Computing in Science and Engineering Portal, a companion project to the joint Society/American Institute of Physics publication *Computing in Science & Engi-*

neering, is a research tool for the entire multidisciplinary scientific computing community, with experts in specific fields peer-reviewing each domain. The CiSE portal currently provides online resources for computational chemistry, astronomy, signal processing, and visualization.

For the software engineering community, the Society plans to offer a wide range of new resources that take advantage of Web technologies. Available now is a first-of-its kind Dynabook—an interactive collection of articles and discussions. Free to members and nonmembers alike on our Web site, the Dynabook examines the topic of eXtreme Programming. Other similar electronic books are planned.

Finally, a proposed design and test portal page and video-on-demand tutorial project promise to offer additional sources of quality information to readers of *IEEE Design & Test* magazine.

Our experience in these four pilot projects will lead us to pursue a combination of electronic portals and print publications in the future. We are planning to launch one to two new publications that will include a Web-based portal as part of their offerings. Look for the latest from these communities' projects at http://computer.org/communities/.

CHANGING RELATIONSHIPS

The relationship between the IEEE and

the Society has been strained in recent years. Since the beginning of 2000, the IEEE has unilaterally implemented a number of changes (for example, bank accounts, financial reporting) to achieve more centralized management control by the IEEE headquarters, which has resulted in the relationships between the CS volunteer leaders and the IEEE volunteer leaders being at the worst point in our history. Extended negotiations have consumed a lot of our energy in recent months.

Notwithstanding, creating and maintaining excellent resources for our members must remain the number-one priority of Computer Society leaders. With that goal in mind, it is imperative that we try to build better relations with our parent organization in 2001. Both the IEEE and the Computer Society must make the most of one another's strengths and cooperate in joint ventures more effectively so that we can spend our energy in providing better products and services to our members and to the computing and information technology profession. A top priority in 2001 will be to look for a new permanent Executive Director. A search has already started, and we hope to report on its progress in the near future.

NEW STRATEGIC PLAN

To best chart the course for Computer Society activities, our Planning Committee periodically evaluates our mission and

goals and meets to establish new objectives in light of changes to the profession. Our new strategic plan for 2001 through 2003 focuses on three targeted areas: our value proposition, our position in the electronic future, and our organizational nimbleness.

After examining our value proposition, the Society will strive to better address the diverse segments of the profession by offering as part of our core benefits the products and services our members esteem the most. Because members have diverse career needs, we must study different member benefit options to address these requirements.

To establish our role in the electronic future, the Society must aim to provide concise, relevant, and up-to-date technical material in digital formats, highlighting diverse areas of interest for members and nonmembers alike. We should fully utilize the Internet's capabilities to make

the Society a total information provider in the computer profession.

To ensure organizational nimbleness, the Society should accelerate its response to new ideas and its development of new products and services. The Society must develop better procedures to incubate new ideas, while at the same time evaluating existing offerings in order to better allocate our resources.

2001 APPOINTMENTS

I would like to introduce to you the dedicated volunteers who will make up your 2001 Executive Committee.

Joining me are Past President Guylaine

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M. Pollock from Sandia National Laboratories (whom the IEEE membership recently elected as IEEE Division V director-elect) and President-Elect Willis K. King, who is a professor of computer science at the University of Houston. Carl K. Chang, your elected first vice president and the Director of the International Center for Software Engineering at the University of Illinois, Chicago, will be vice president for educational activities. Deborah Scherrer, your elected second vice president and a member of the development team at Transmeta, will be vice president for technical activities.

James H. Cross III, chair of the Department of Computer Science and Engineering at Auburn University, will lead the Chapters Activities Board. Gerald L. Engel, a former IEEE Division V director and the Leonhardt Professor of Computer Science and Engineering at the Stamford Campus of the University of Connecticut, will serve as vice president for educational activities. Lowell Johnson, a consultant at Unisys, will serve as vice president for standards activities. Rangachar Kasturi, a professor of computer science and engineering at Pennsylvania State University, will chair the Publications Board. The trea-

surer this year will be Stephen L. Diamond, vice president of marketing at Equator Technologies. Wolfgang K. Giloi, founding director of the GMD Institute for Computer Architecture and Software Technology in Berlin, will serve as secretary. Jim Aylor, editor in chief of *Computer*, will also be a member of the Executive Committee, as prescribed by Society bylaws.
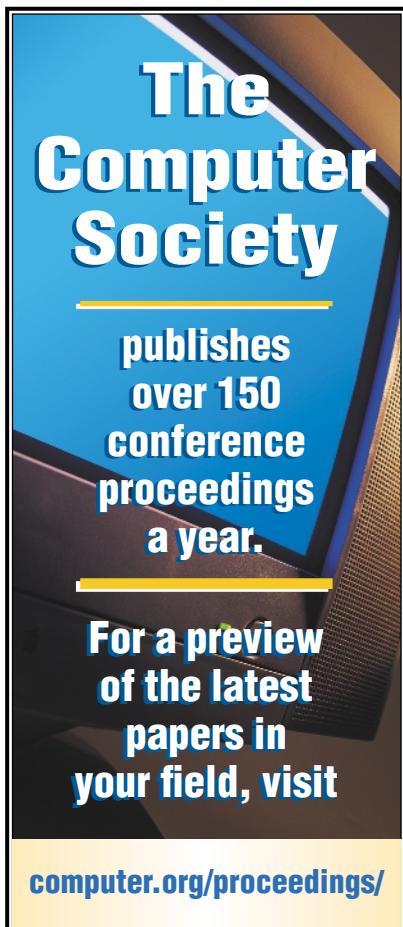
Nonvoting members of the Executive Committee are the two members of the IEEE Board of Directors elected by Society members—Doris L. Carver from Louisiana State University and T.W. Williams, a chief scientist at Synopsys—along with Society Acting Executive Director, Anne Marie Kelly.

Descriptions of the major boards and other Society activities can be found on our Web site at http://computer. org. Please visit the site and look for opportunities to participate as a volunteer in your Society. I encourage you to contact any member of the Executive Committee if you would like to join the more than 18,000 computer professionals who make up the volunteer work force of our Society. These volunteers, together with our dedicated professional staff, make possible the benefits, products, and services you enjoy as a member. With your help, we can do even more.

I approach this year as your president recognizing the challenges it represents, but with enthusiasm about the growing number of members and our dedicated and talented volunteers and staff who will help the Computer Society achieve its vision. Join us. ✴

Benjamin W. Wah is the Robert T. Chien Professor of Electrical and Computer Engineering at the University of Illinois, Urbana. Contact him at b.wah@ computer.org.