The end of my term as IEEE Computer Society president offers an opportunity for me to provide an overview of what our society has accomplished this year, some of the challenges we face in the next few years, and where we could be at the end of this decade.

2010 SUCCESSES

Thanks to the efforts of an excellent team of volunteer leaders working closely with staff and IEEE, the IEEE Computer Society achieved notable successes in 2010. Key results include growth in membership—students, affiliates, and full members—along with a significant increase in the perceived value of membership as indicated by our annual survey.

These successes aren’t the result of one year’s effort, but rather are the fruits of initiatives started a few years ago based on hard work by volunteers and staff. Our new Membership and Geographical Activities Board is a key driving force here.

Another outstanding event in 2010 was our awards ceremony. The Society seeks to recognize significant contributions to the computing field through major awards. For the first time, we sought to bring the presentation of these awards to a single venue in a high-profile event. The results were impressive, as you can see for yourself at www.youtube.com/user/ieeeComputerSociety, which highlights specific awards and presents interviews with the recipients.

As a side note, our social media engagement has increased, including Facebook, LinkedIn, Twitter, and even Second Life, where monthly meetings occur on the IEEE island.

During this year, I’ve tried to raise some of the interesting challenges we face in the President’s Blog (www.computer.org/portal/web/cspresident/1/-/blogs). My successors may choose to use this channel differently. However, I encourage you to take a look, and add your comments to both existing and future entries.

I will revitalize ongoing blog comments at http://jimsieeecs.blogspot.com and welcome you to follow this and comment there as well. The topics for that blog will stray from a “presidential focus”—and maybe I will have more time to actually keep the commentary going.

CERTIFICATION

Software engineering certification is taking on a new visibility, with the US setting up a process to formally license software engineers. The Guide to the Software Engineering Body of Knowledge (SWEBOK Guide) and key experts with Computer Society certification experience will play a central role in this process. While much software doesn’t require the formality and competency provided by certified software development professionals (CSDPs) or licensed software engineers, there are areas where this is appropriate: health, safety, and mission-critical systems clearly benefit.

SOFTWARE QUALITY

It’s important that the public as well as policy makers become more aware of the importance of software quality. For example, a few months ago, Virgin Blue Airlines experienced significant delays in Australia as a result of a third-party booking system malfunction; anecdotally, I was recently at a pizza parlor where all of the point-of-sale systems had to be rebooted to allow printing receipts. Needless to say, business reputations also depend on software quality.
do the reputations of the professions we serve.

SECURITY
Another professional challenge is system and network security. Attacks on countries, commercial entities, and private citizens are occurring more frequently—some significantly disrupting operations, others having a major financial impact.

We already embrace some of the world’s experts in security and privacy within our technical activities, conferences, and publications. There’s a community of practitioners, and students who will become practitioners, that we also must serve as well.

Our future as a professional society depends on investing in next-generation capabilities.

Software quality isn’t something that gets added to the product in version 2; neither is security. These are things we must recognize, evangelize, and facilitate via our various areas of professional activities.

ONLINE COMMUNITIES
My personal top priority for this year has been to encourage the establishment of online communities that any member could create and invite relevant professionals to join. As a professional society with a focus on specific technology-related areas, we can provide a context that isn’t available on sites like Facebook or LinkedIn. Within the Society, we speak with our individual, identified, experienced voices. Second, we have the information context—articles, conferences, tutorials, and local activities—that can complement the online network with solid substance.

To join an existing community or to start your own, go to http://communities.computer.org/portal/web/ic_communities/home. There’s a sandbox community you can join to try things out first.

While we obviously need to establish a strong level of interaction in some topic areas—for example, cloud computing—others will emerge based on the level of interest and engagement you bring to the interaction. If we have 1,000 communities and only 5 percent lead to significant results, that’s a good ROI.

Deployment of these communities involves two technical aspects: we’re implementing them with open source software and hosting them at the IEEE computing center. Although we’ve experienced a few delays while navigating the learning curve, both steps strengthen our ability to serve members in the future.

FUTURE CHALLENGES
Serving members in the future is a nontrivial path for us. Paper publication is giving way to digital libraries and distribution. This can break the traditional link between a journal and the papers associated with it.

While we want to retain the implicit branding that occurs when papers are accepted by top journals or conferences, we also can develop opportunities to serve professionals more selectively. The “subscription” of 2020 will be “just for you” content based on integration of your expressed preferences and your actual search patterns, and cross-connecting this with “professionals like you.”

The challenge for IEEE and the Computer Society is to find the way to lead forward. This path isn’t free—it’s ultimately funded by surpluses generated from publication/subscriptions, conferences, and membership fees.

We’re also building up new revenue with webinars, online tutorials, advertising, corporate sponsorships, and other sources that can help fund our objective of serving your future needs.

I know some of our volunteers have been frustrated by changes in our business models and policies—change is like that. It’s easy for each of us to argue that our particular area of involvement shouldn’t be subsidizing other activities—be it our world-class awards ceremony or the next generation of services for professionals.

But the reality is that our future as a professional society depends on investing in next-generation capabilities. Given that these are dependent on the technology areas we address, it’s embarrassing to not be in the lead here. The good news is that we’re part of IEEE, the world’s largest technical society, and we have common needs that can be leveraged across the organization. Similarly, the problems our professions face in the future also span IEEE—from the smart grid, where computing becomes an essential part of power systems, to cloud computing, where the costs of computing may well be measured in kilowatt-hours.

THE VALUE OF GETTING INVOLVED
One theme I’ve found relevant at the many local, national, and international conference venues where I’ve had the opportunity to speak is the value of becoming involved in the IEEE Computer Society.

Over the next decade, a few things are a given. Technology will continue its exponential growth (much of this is our fault, you realize), and we’ll all need to find ways to stay on top, which of course is a key reason for our publications, conferences, local events, and Web services. But also realize that many of us will need to change jobs (both employers and perhaps area of work as well), and often it’s who you know, not just skill sets, that facilitates this transition.
Being active in the Society at the chapter level or as a participant in conference committees, publication committees, standards committees, and so on provides you with an essential tool for guiding your career. The skills needed for success aren’t just using design tools or programming computing languages, they include teamwork, effective communications skills, demonstrated leadership, and innovative ideas. Active engagement with the Society can help you in all of these areas.

An additional critical area is working in globe-spanning teams. The Society is truly global, with members and activities in most countries. Our number one long-term strategic objective is to establish a relationship with every related professional worldwide—millions of them. It would be nice if they were all members, but that isn’t the objective. They should know who we are, and we should know who they are. And we should be able to contact them when we have relevant information.

If we do our job right, in 2020 we’ll not only support the personalized delivery of technically related materials to each member, we’ll also have the resources to let every computing professional in the world know about things they’ll find of value. Again, the tools for accomplishing this are the ones in our fields of expertise: databases to keep track of contacts and interests, networking to provide interaction, and artificial intelligence to help narrow the hundreds of thousands of papers published in our fields by 2020 down to the few hundred you’ll find of greatest interest.

This is your professional society. You’ll get the most out of your membership by getting involved—take advantage of our growing global membership, tell us where to go, and help us get there.

James D. Isaak retired after a 30-year career in industry operating systems and standards and six years in academia. Contact him at 2010CS@JimIsaak.com.

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