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A new vision for standards

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What is significant about standards? On a recent trip to an IEEE Posix meeting in Utrecht, The Netherlands, my spouse and I stopped in Paris for a few days. One evening, I inserted my credit card in an automatic teller machine, entered my four-digit code, and requested 300 francs. A moment later, the machine gave me the francs, which were automatically converted to US dollars and deducted from our US bank account. I tried to imagine the number and type of standards that put those francs into my hands.

Standards affect the credit card's shape, the bank transaction's format, the telephone interconnection from the French telephone system to the US phone system, and an anonymous Cobol program running on a computer at my bank. We can buy a PC at a department store and find a compatible peripheral at the mall. Effective hardware standards make such equipment mixing practical.

Positive trends. The computer programming languages employed in the field are more useful when they are based on standards. Many organizations procure all their computer systems by requiring adherence to computer standards from various sources. Without independent standards, these organizations would have to choose a proprietary or local solution for their computing needs.

Standards help foster competition in information technology (IT). Such competition ensures that our computing industry provides cost-effective solutions. The Internet's growth can be at least partly attributed to publicly available networking specifications that let an entire technology evolve rapidly. In the future, technologies such as the National Information Infrastructure (NII) will extensively use existing and emerging standards.

Market reactions. The market seems to favor computer standards. In several instances, it must choose between a good technology based on a standard and slightly better, proprietary technology. More often than not, it chooses the standard-based technology because of the proprietary solution's long-term cost.

Even though IT standards have had a positive, significant impact on our industry over the past few years, many people feel that the formal computer-standards process is inadequate and holds back technology. The industry needs standards now, but developing a formal standard takes time. Hence, people are always looking for ways to develop standards more quickly.

Important issues. This column will focus on the general goals, issues, and events regarding computer-related standards. Topics will focus on the role of standards in

- the IEEE Computer Society;
- the American National Standards Institute (ANSI);
- the International Standards Organization (ISO) and International Electrotechnical Commission (IEC);
- vendor consortia, such as Open Software Foundation (OSF) and X/Open;
- other standards developers, such as the Internet Engineering Task Force (IETF);
- the standards community; and
- computing industry areas affected by standards.

Deciding how to best develop an IT standard will be a recurring theme. Join us next month as we discuss the value of the formal standards process, and if you'd like to submit material for a future column, contact me.

Computer's *Standards Department resumes under a new editor.*

Introducing Charles Severance

Our contributing editor for this department, Charles Severance, brings to us a wealth of standards-related experience. He heads the Unix Computing Group at Michigan State University and is a part-time instructor in the Computer Science Department, where he teaches computer architecture. He also holds seminars on Unix and transmission-control protocol/Internet protocol (TCP/IP) for automobile manufacturers, pharmaceutical companies, and educators. During his 15-year tenure at Michigan State University, Severance has held positions in user services, systems programming, and network services at the Computer Laboratory. In addition, he has worked in industry as a systems programmer and project leader, developing communication and networking software.

Severance is vice chair of the IEEE Posix Steering Executive Committee and the technical representative of the Open Software Foundation for Michigan State University. He holds BS and MS degrees in computer science, both from Michigan State University.