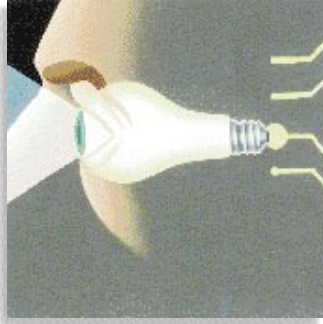


## The Internet and Standards Worries



As industry becomes more involved in the IETF, the standards process faces new influences and concerns.

The Internet has become the darling of the high-technology and future-savant communities. It is pitched unmercifully as the new wave of business—the “paradigm shifter” par excellence. Advertisements for it (or for how to hook your company to it and thereby earn tremendous profits) appear in newspapers with an astonishing degree of regularity. Even National Public Radio constantly reports about the Internet and how it is the “cat’s meow.”

This is all well and good. It’s nice that people who were formerly afraid of PCs have something new of which to be afraid. The possession of an enabled Internet connection will become a necessary business tool (if only for prestige) over the next several years. But—and this is critical—how will the Internet grow?

If you look at the history of the Internet, you’ll see that it has been built on a voluntary standardization process that is considered unique in the industry. Fundamentally, the Internet Engineering Task Force (IETF), the Internet’s standardizing body, is a free-wheeling association of technically competent and usually idealistic experts who believe in the fundamental goodness of what they are doing. The IETF is generally open to anyone who cares and wants to do what is right. It meets three times a year to solve technical problems concerning the Internet

and create sort of a “group think” on where things are going with this strange medium of communications. (For a full discussion of the outlook for Internet standards, see page 18.)

The amazing thing is not that this approach has worked; the historical foundation of the Internet was in areas that would encourage this type of activity. The amazing thing is that the approach is continuing to work now. The frightening question is how much longer it will continue to work. The reason for this fear lies in the nature of networking standards as the IETF has created them.

The fundamental rule for an Internet standard is that the proposed standardized function must fit into the existing setup; that is, don’t break what we have. The second rule is that the best technical decision should always be taken; not a compromised decision. The third rule—not explicitly stated—usually focuses around the habits and realities of maintaining and improving the system; solutions are created because there’s a clear danger or problem that needs fixing, not because there’s a wonderful solution out there just waiting to be born. When you take these procedures—and couple them with the dedication that many people feel for the work that they do in the IETF—you get a sense that things are going well and will continue to go well.

### Commerce Meets the IETF

As with every silver cloud, however, there is a dark lining to this one. The IETF originally was composed of fewer than 100 intense, devoted researchers and engineers. They liked the ARPAnet idea and made it function, because they believed that they were doing good work. The IETF now has over 1,200 participants. These people are sent by commercial organizations, and they are charged with representing commercial interests, rather than the interests of the Internet or its technology. They’re interested in the technology only as it can be applied to solve business or commercial problems for their sponsoring organizations.

I do not mean to paint all of the newer participants as scoundrels; they are far from it. But the emphasis is changing, ever so slightly. And the emphasis will continue to change as more and more people—and more and more dollars—get funneled into the Internet.

Many people (especially long-time members of the IETF) look nervously at the failure of the International Organization for Standardization’s Open Systems Interconnect (OSI) schema. Looked at rationally, OSI was not especially different in its conception than was the Internet. The difference was that the OSI model attracted the attention of the major systems vendors almost immediately, because it represented a technology that threatened the way they architected systems, the way they did technology and the way they did business. Their response was to send people to the meetings of the standards groups that were crafting the underlying standards for OSI. And when the standards were completed, they covered everything for everybody all of the time—which is to say that they really covered nothing for nobody never.

The same is true of the IETF. This growth has come because the Internet forces a fundamental shift in the way that

By Carl Cargill

organizations do business. When Microsoft looks at the Internet as necessary to its success and realizes that it must play with, and not own, the technology, it means a fundamental shift has occurred. Other organizations—from browser companies to software suppliers—are all becoming aware of the tremendous power of the Internet as a technology, and they look at the source of that technology (the IETF) with interest. As more and more companies get involved, more and more will be at risk for the organizations that make up the user base.

This leads to a second major problem that the IETF is facing. When it was small, and the Net was interesting but not necessary, it was possible to make somewhat radical changes in the nature of the technology for marginal improvements or for future planning or capabilities. When there is a trillion dollars invested in the status quo, however, changing a standard becomes substantially more difficult. And when there are two opposing camps, each of which stands to make a half-trillion dollars because a specific change was or was not made, gaining consensus in unstructured meetings becomes very difficult.

### **Non-Technology Issues**

The leaders of the IETF are aware of this problem. While failure of a standardization organization breeds one form of behavior, success breeds an entirely different form of behavior. And while the IETF seems to be handling success well, the real problems have only begun to surface. The widespread commercial adoption of the Internet; the appearance of government censorship; the problems with encryption; the abuse of the Net by both commercial interests (lawyers) and “hate groups” (a “PC” term if I’ve ever heard one); and the growing critique of the Internet as a decisive social influence (have and have-not groups) all will come to shape the way that the technology is

created and implemented. Remember, the network is only as strong as its weakest member. The IETF faces the growing task of shoring up more and more weak links—links threatened not by technology but by social and commercial interests and problems.

When the Internet was small and cute, no one got too worried about it. It is no longer small or cute. It is, rather, a vast, looming presence that potentially overshadows even Microsoft. And it is based on a belief in the fundamental goodness

of what it is doing; its creators in the IETF were making things better through standardization of technology. They have succeeded; the question now is whether they can continue to succeed. If they can, the Internet will continue to be capable of growing. If they cannot, the Internet will not. ■■

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