

■ THE SLATER PERSPECTIVE

Increasing Returns in a Web World

Standardization Proves to Be More Valuable Than Features



Starting this month, I'm moving to the back of the newsletter. This gives me the opportunity to write a column for every issue of Microprocessor Report while opening up the editorial space on page 3 for editor-in-chief Linley Gwennap and our other analysts. In addition to appearing more frequently, I would like to make this column a bit more personal.

During the past two years, the Web has loomed increasingly larger on the computing landscape. It enabled Netscape to grow from nothing into one of the world's top software companies, drove Microsoft to rework its entire product line, spawned countless startups, and provided microprocessor makers with tantalizing new opportunities.

The Web has also created the most fundamental shift in the publishing industry in hundreds of years. As both a publishing company and technology analysts, we have been affected by the Web in many ways. It has not only shifted the microprocessor outlook—it has caused us to rethink our own business model.

In the past few months, I've been working on expanding *Microprocessor Report's* Web presence. (You'll begin to see the results of this effort in the spring.) As I became more intimate with HTML and the tools of the Web, it struck me that the meteoric growth of the Web offers important lessons for computing beyond its direct effects.

First and foremost, the Web shows that broad standardization is overwhelmingly valuable—more valuable than any modest, or even substantial, technical advantage an incompatible solution may offer.

The Web was able to take off so quickly because the underlying elements had been in development—and deployment—for two decades. The Internet, the installed base of personal computers, and low-cost modems provided the foundation. A key trigger for the “sudden” growth of the Web was the creation of HTML, a primitive language for encoding text and graphics for computer display.

If you've never looked closely at HTML, you may be surprised at how crude it is. Today's version (3.2) is far richer than HTML 1.0, but even so it has huge limitations. (For example, there is no direct way to control the line spacing of text, and the only way to select a particular font is to store the characters as bit-mapped graphics.) It is amazing, in light of HTML's limitations, how attractive some Web sites are—but it takes an absurd amount of effort to create such sites.

The Web took off in spite of HTML's limitations because of the overwhelming value of universal compatibility.

On-line services existed before the Web, but as long as each was an island of its own, their value wasn't fully realized. As a desktop publishing vehicle, HTML is miserable, but its universality makes it earthshaking.

The Web provides a vivid demonstration of the principle of increasing returns that has shaped the modern computer industry: the more successful something is, the more valuable it is, which makes it even more successful. This principle is at the heart of why Intel's RISC competitors have had little success selling microprocessors for PCs, and why Apple's situation is truly dire.

Many microprocessor makers have offered chips with higher performance, lower cost, and lower power consumption than Intel's x86 microprocessors. But it is the software that makes PCs useful, and software availability makes an x86 PC the most attractive choice for the vast majority of PC purchasers. Modestly higher performance just doesn't matter very much. Since x86 PCs have by far the biggest installed base, they remain the primary target for software developers, further increasing their value.

When Macintosh software was clearly superior to the PC's, its draw was strong enough to make the Mac an attractive platform. But when Windows narrowed the gap in software usability, the advantages of the PC's ubiquity became predominant. As the Mac's market share slips, less software is written for it, and its value proposition becomes weaker. It is hard to imagine Apple coming up with software so outstandingly better than Windows that it would overcome the downside of selling only one-fifteenth as many systems each year.

This pattern unfortunately leads to the dominance of a few very large companies. The Web changes the model, however: the principle of increasing returns applies not to a company but to a set of standards. The Web ecology favors open standards; proprietary extensions will have limited success. New HTML features will be widely used, for example, only when both Microsoft and Netscape implement them.

Java provides programs with the same universality HTML offers documents. It has its handicaps—the biggest being that it starts with no base of applications—but HTML overcame similar barriers. If a fraction of the effort now being put into Java applications bears fruit, the Web and Java will become the world's number-two computing platform, second only to Windows. Indeed, Netscape has already displaced Apple as Microsoft's key competitor. ■

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