THE EDITORIAL VIEW

RETHINKING WEB APPLIANCES

By Michael Slater {9/25/00-01}

As long-time readers of my columns are well aware, I have been enthusiastic about the prospects for Web appliances—Web tablets in particular—to free the Internet from the confines of the PC. As I have watched numerous companies attempt to launch such products during the past year, however, the depth of the challenge has become more apparent.

To think clearly about Web appliances, it is first essential to be clear about the market segment being targeted. The popular argument for Web appliances is that they will enable non-PC users—people who haven't bought a PC, for reasons of cost or complexity—to get on the Web. If the Web is to become truly ubiquitous, which is inevitable, it needs access devices that are cheap, unintimidating, and easy to use. More than half of U.S. homes have PCs, but that still leaves nearly half of them without access to the Web—and penetration is much lower in the rest of the world.

The problem with Web appliances as products for the "other half" is that new types of devices are most readily sold to early adopters—a category that clearly excludes people who don't yet have a PC. Selling new types of consumer devices to people who are inherently slow to adopt new technology is a daunting proposition. This is a key reason that WebTV, after years of effort and Microsoft's backing, has stagnated at a mere one million users.

Further compounding this problem is the lack of a decent distribution channel. Some Web appliances are sold primarily via the Web—an odd channel for people who are buying the device to get their first Web access. Direct selling via print ads is possible but expensive, and selling technology conservatives a device they have never seen in person will be tough. That leaves consumer electronics stores, which are pathetically incapable of creating demand for new products—or selling anything that requires significant explanation. (Another option is delivery through a service or e-commerce provider, which I discuss later.)

For all these reasons, I believe the successful early market for Web appliances (in the United States) will not be neophytes but experienced Web users who want additional access points. The likely buyer of a Web tablet is someone with one or more PCs who is an active Web user—and is increasingly likely to have a broadband connection to the 'Net.

Unfortunately, none of the early Web appliances is well suited to the Web aficionado. All sacrifice compatibility with significant portions of Web content because of the difficulty of providing plug-ins for all the popular formats—such as RealAudio, Flash, and PDF—in a non-PC device. And that's just the beginning of the problems.

To keep costs down, Web appliances today must either use CRT monitors, which make them too bulky to fit easily into home décor, or LCD displays. Alas, LCD displays introduce their own issues. First, they are expensive, thanks in part to a shortage of LCD production capacity. To keep costs reasonable, appliance designers typically choose lower-quality passive displays, which don't look nearly as good as typical PC displays (either a desktop CRT or a notebook LCD). Sometimes they compromise resolution as well. The result is

a product that makes walking back to the den to use the home PC seem more attractive.

Price points present another big problem. Conventional wisdom is that consumer electronics devices above $500 are difficult to sell in large volumes, and that $299 and $199 are the magic points at which volume really takes off. A quality Web appliance can't attain these price points today unless the cost is subsidized by a service contract—the approach most suppliers are taking. Commit to $20 a month for a few years, and you can buy the device in question for $199.

This is a good strategy for the new Web user, but for the Web enthusiast market, where the early customers are most likely to be found, having a second ISP forced on them will generate a lot of resistance. This is especially true if you try to sell someone who already has a broadband connection a device that works only with a dial-up modem—which is the case with all Web appliances introduced so far. With no pervasive standard for home networking, it is hard to build an appliance that can use broadband connections.

Does this picture seem rather dismal? I'm afraid it is, at least for the near term. I don't have high hopes for any Web appliances introduced so far, and I don't expect to see any successful Web tablets this year. Most Web appliances will first have to be established as additional access devices for existing Web users, which means they must deliver a high-quality experience and not compromise compatibility. They must integrate with existing broadband connections and provide access to existing printers, which requires home networks that aren't yet widely deployed and for which several rival standards are competing. Meeting these requirements raises costs, however, and using the customer's existing ISP service eliminates the major source of subsidy, so achieving acceptable price points will be difficult.

For the next two or three years, new Web users are unlikely to find a better alternative than buying a cheap PC with preloaded Internet software and a bundled ISP. PC makers should focus relentlessly on delivering low-end PCs that come preconfigured as Web appliances, hiding all the PC complexity. Companies building Web tablets and other general-purpose Web appliances should focus on the enthusiast market; when these devices mature, after a few years of being sold to enthusiasts, and LCD costs fall, they will finally be able to attack the late-adopter markets that the PC will not have served yet.

In the near term, Web appliances may be most successful as access devices for particular services. Some e-commerce sites or financial services firms will offer heavily subsidized appliances to their best customers, giving the customer a physical portal. Broadband ISPs may provide subsidized applinces, just as phone companies once provided telephones. It remains to be seen, however, how many businesses will be able to justify the subsidy, and how many consumers will want the appliances if they don't address all the issues previously described. Web appliances may also be attractive in developing countries that are just now building an information infrastructure.

The most interesting Internet appliances will be those devices that aren't just another way to browse the Web but go further—audio players that get music from the Internet, kitchen appliances that scan bar codes and can place orders at WebVan, and so forth. Devices that fulfill a specific desire are more likely to succeed than those that aim at mimicking PCs. Like general-purpose Web appliances, however, these devices will take time to mature—consumers take time to warm to new product categories. Furthermore, device costs must come down, and Internet-delivered services must improve in quality and availability. Eventually, there will be a large market for Internet appliances—but developing that market will require careful targeting, patience, and persistence. ◇