

# PC Not Best Choice for Home Hub

*Center of Home Network Should Be Simple, Reliable*



There is little dispute today that the world of computing devices will become dramatically more diverse, and that home networking is going to take off. A lot of disagreement remains, however, about the role the PC will play in the new world.

Unsurprisingly, Microsoft and Intel view the PC as the natural focal point for digital devices in the home. Today, there is no doubt that this is true. A user might have a handheld organizer and a digital camera, but both depend on the PC for storage and manipulation of data. The PC's modem is the connection to the Internet, making the PC, in effect, the router for the home network.

Because the PC-centric topology is pervasive today—and because there are entrenched players whose interests are best served by keeping it that way—it is natural to assume that this approach will prevail in the long run. This may well be the outcome, but if so, it will be because economic forces overpowered the technical and usability issues.

Once a home network is in place, the need to connect everything directly to the PC goes away. The network is the common element, not the PC. The PC today holds two key resources needed by many other devices on the network: mass storage and wide-area connectivity. In the long run, however, these needs could be better met by what some people have called the “information furnace”: a home server that resides in the basement or in a closet. Just as in a business network, the center is the server and not the PC. Unlike the server in the business environment, the home server must be far simpler to use than today's PC-based servers.

The home server would provide connections to wide-area networks, with options including cable modems, DSL, and satellite. It would also include a hard disk acting as the storage server for the network. Finally, it would connect to one or more local-area networks, which could be phone-line or power-line based, have dedicated wiring, or be wireless. As high-bandwidth home connections become widespread, the home server could become the video path into the home as well, and the “TV” would be a large-screen display device hooked onto the home network.

The home server doesn't need any user interface devices; whatever administration is required can be done via a browser running on a PC—or on any other client device. The server should run all the time, so it makes sense to put it where whirring disk drives and fans don't bother anyone. It must be highly reliable, it needs to run only a limited number of programs, and it needs to unerringly process high-

speed streams, so it is undesirable for it to be the same system used for running a range of applications. It is an information appliance, not a general-purpose computer.

Of course, a PC can serve the functions of the home server, but it has drawbacks. First and foremost is its poor reliability. My PC could, in theory, do a very nice job as an answering machine, but I would never trust it to answer the phone 24 hours a day, seven days a week. The home server doesn't need all the configurability and software compatibility that saddle the PC. PCs will, in time, become more reliable, but I have a hard time believing that the time will soon come when a crash is, at most, a once-a-year event, which is what it should be for a home server.

With a home server, all other devices on the home network become peers. The majority of homes probably will have a PC, but it won't be required—and it won't have to be turned on for other devices to use the network. PCs are great tools for those of us who are willing to put up with them, but networked digital appliances will be attractive to many people who won't want to deal with a PC.

I would choose to use a PC when I want to sit at a desk and have access to the widest range of programs. The PC might have its own disk drive for speed of access, but its contents would be synchronized with the server. A handheld organizer could connect to the network and have its contents automatically synchronized with the server. I might also view and modify the organizer information on the PC, but there is no reason for the PC to be the central resource.

Similarly, my digital camera could connect to the network via RF, IR, or a wire, and the server would detect that there are pictures in the camera that have not yet been copied to the disk and automatically transfer them. Little or no user interface would be required. If I then wanted to view, print, or modify the pictures, I might use a PC, or the “TV.”

If there is a PC in the house anyway, why not use it for the server? I believe the advantages of a dedicated device are sufficient for it to be worthwhile, however, and the cost should be modest. A decent home server could sell for well under \$500, since it would not need a display, keyboard, x86 processor, or Microsoft software. The lack of a need for Intel or Microsoft technology could, in fact, be its downfall; those powerful companies will push hard to make the PC the center of the home. Perhaps the most likely outcome is a home server based on PC technology, but with limited functions and expandability: a PC-based appliance. ■

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