Playing the Digital Convergence Game

WebTV Could Be Converged Out of Existence

When trying to understand politics, the rule is to follow the money. In considering the opportunities for digital convergence, I have a new rule: follow the MIPS. In general, a function that requires fewer processor MIPS and a simpler feature set can be subsumed into a device that provides more MIPS and a more complex feature set. This rule spells trouble for the current WebTV, among others.

The devices that connect to a television are ripe for digital convergence. These devices are generically called set-top boxes, although it's easy to have so many that they end up on top of, underneath, and somewhere near the TV. Today's leading-edge consumer might have a DVD player, DSS satellite receiver or cable decoder box, video-game system, and WebTV-type device. Although few people today have all of these products, they are all increasing in popularity.

The total cost of all these units is large, and having several discrete boxes makes the combination difficult to use. Simply cabling all these units together and finding a place to put them can be difficult. Grouping some functions would reduce overall cost and simplify the picture.

Let's follow the MIPS. The DVD player combines a spindle, a microcontroller, and an MPEG decoder. The DSS unit is chock-full of electronics, with an analog front end, digital signal processing, and an MPEG decoder as well as a phone-line interface. The video game has a high-performance CPU, a 3D graphics chip, and, if it is a Sega Saturn or Sony PlayStation, a CD-ROM spindle. A WebTV unit has a similar CPU and uses a phone line to connect to the Internet. All of these devices have a video output, of course.

The WebTV looks like the first to disappear. Sega has already announced that its next-generation device, called Dreamcast (see MPR 6/1/98, p. 8), will include a built-in modem for multiplayer gaming. The same modem can be used to surf the Web, and Dreamcast will include browser software for this purpose. Like the current Sega Saturn, Dreamcast uses a CD-ROM to access its game software.

Additional convergence is possible. The SH-4 processor in the Dreamcast system generates enough MIPS for MPEG-2 decoding. As the cost of DVD drives continues to drop and approaches that of CD-ROM drives, a slightly modified Dreamcast with the right software could play DVD movies as well as video games, replacing the DVD player.

The makers of DVD players, of course, don't want to be left out of the action. Consumer-electronics giants Thomson and Toshiba are working with a small semiconductor maker, VM Labs (see MPR 6/22/98, p. 22), to add video-game functions to their DVD players. The VM Labs media processor has enough performance for MPEG-2 decoding as well as the 3D graphics needed for popular video games.

This chip could also be used to replace the hardwired MPEG-2 decoder in a DSS receiver or digital cable box. In this way, these systems could also be converted to video-game players. One drawback to this combination is that a DSS or cable box cannot read CD-ROMs, which are used to distribute many video games today. A CD-ROM could be added, of course, or the system could accept games stored on ROM cartridges (as in the Nintendo 64) or even download software from the Internet.

Going whole hog and adding a DVD drive to the DSS box would allow an all-in-one system that could access satellite programming, play DVD movies, play video games, and surf the Web. Such a device would be the lowest-cost solution for this combination of features, and it should be easier to install and use than a set of discrete units.

The problem with integration is that not everyone wants all of these functions. Some don't care about video games. Others don't need satellite television. In addition, consumers have different needs and desires even for the same function. High-end DVD players offer a range of features not found in basic DVD players. Preferences are even stronger in the video-game space, where the software and capabilities of each platform vary widely.

Therefore, there will continue to be a variety of stand-alone products in this space, particularly products that provide some high-end features. Many consumers will want to pick a specific DVD player and combine it with an existing video game, for instance. But consumers looking for basic functions may be served well by an integrated unit.

Web browsing is a basic function that can be easily integrated into video games, DSS receivers, and even televisions themselves. I expect such integration to become widespread, reducing the need for standalone WebTV-type devices.

Where games are desired, the video-game companies are in the driver's seat. A DVD manufacturer can't add Nintendo compatibility to its systems, but Nintendo can easily add a basic DVD playback function or even a DSS interface. Consumers who want video games should be able to get these other capabilities at little or no extra cost. If the video-game makers don't seize this opportunity, however, others will. Ⓜ

Linley Gwennap