USB vs IEEE 1394 (FireWire or iLink)

by Paul Cook

I often get questions about the relative speeds of USB and IEEE 1394 (more commonly known as FireWire or iLink).

Most express surprise when I suggest that FireWire 400 is actually a better choice than USB 2 for external hard drives and a number of peripherals where speed is important. Now that USB2 claims a 480 M Bit per second data rate, most expect that it would be a better choice than FireWire 400 which only claims a 400 M Bit per second data rate. This expectation is as natural as it is wrong. USB may have a faster maximum bit rate, but FireWire has a more efficient protocol and that can make all of the difference.

This is a good example of the advantages of an open standard with peer review. I tend to think that 1394 is just better designed, but, in fairness, USB 1 is cheaper.

Following is a chart posted on todays' Macintouch (http://www.macintouch.com on 8/23/06) web site showing the benchmark results they achieved. Notice that FireWire 400 is about twice as fast as USB2. Notice that FireWire 800 is faster yet.

The fastest technology they reported were versions of Serial ATA. SATA has both an internal and an external version, the distinction being in the connectors. SATA is a great technology for high speed hard disk access.

This is particularly true in striped RAID configurations. But you won't find much else available in it. So if you want to hook up a video camera, a scanner, a printer, or even a mouse, USB and FireWire are probably better choices.