

GhostNet Periodical - 3rd Edition

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Gh0stNet, Inc. hopes everyone has had a wonderful start into the new year. Our last periodical included some basic tax tips for the new year and we hope it was helpful, but it is time to shift gears back to the technical arena. With new budgets opening up for some of you, you might be looking at options for a technology upgrade to your current computers and network systems. We wanted to take some time and address the most popular methods of expansion currently available, USB and Firewire. As usual, we hope this periodical is useful for you.

We would also like to take a moment to officially welcome two new members to the Gh0stNet, Inc. team.

Laura Bennett - Contractor/Clearview Computing

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Clearview Computing takes a look at USB and FireWire, 01/24/03

While I have built many computers from the ground up, it seems to be a rare occasion that I get to build a computer for myself. I realized the time had come to do just that when I turned my computer on and it actually played Taps. Being on a limited budget, I have spent the past few weeks trying to find what I want at a price I can afford. Within the past few months, a new technology I have seen in an increasing number of desktops has caught my attention, so I have done a little research. This new technology is called IEEE 1394; more simply known as FireWire.

What is FireWire?

FireWire, a technology similar to USB, is relatively new to the PC, although its development actually preceded that of USB. It's what has given Apple and their line of Macintosh computers an edge on PCs for a number of years now and it is fast. Developed by Lucent Technologies, the IEEE standard 1394 high-speed bus technology, dubbed FireWire by Apple Computers, has been implemented into the Macintosh operating system and Apple desktops since 1997. The standard currently available is FireWire 400, which transmits data at a rate of up to 400 megabits per second and can support up to 63

devices per port, but is comparatively more expensive than the current standard methods of data transfer.

Other Methods of Data Transfer

While the focus of this article is mainly to compare like technologies, I must include the next two methods of transferring data as they have been and still are a common standard in computers today.

Serial

The serial bus (the bus is the highway along which information travels) was the first implemented standard of data transfer. Today, it still comes standard on almost all computer hardware, regardless of age. While this method of data transfer is relatively cheap, it is very slow. By definition, serial transmits data one bit at a time.

Parallel

The opposite of serial is parallel, in which several bits are transmitted concurrently. Instead of sending the bits one at a time, parallel buses send the bits in parallel, so that the entire byte arrives at once. When IBM introduced the PC in 1981, the parallel printer port was included as an alternative to the slower serial port. As the need for greater external connectivity increased, the parallel port became the means by which you could connect higher performance peripherals. These peripherals now range from printer sharing devices, tape backup, local area network adapters and CD ROM players.

Universal Serial Bus (USB)

USB and FireWire are similar in that they are both hot swappable, which means you can attach a device without restarting the computer. USB transmits data at a rate of 12 megabits per second and it can support up to 127 devices per computer, with a maximum distance of about 5 meters between devices. To home computer users like you and I, this does not seem limiting, but it is for professionals who use bandwidth intensive video and graphic applications.

How does USB compared to FireWire?

While the two technologies seem similar, they are intended to fulfill different bandwidth and cost needs. FireWire can move more data in a given amount of time, but is considerably more expensive than USB due to its more complex protocol and signaling rate. Applications that are best suited for FireWire are disk drives, high quality video streams and other high bandwidth applications; all higher-end consumer devices. USB is appropriate for middle and low bandwidth applications such as audio, scanners, printers, keyboards, and mice.

In Conclusion

After comparing USB and FireWire, I have found that FireWire is for users to whom high performance is a priority and price is not. At this time, USB is more suited for the needs of home users like myself where price is a priority and high performance is not.

Laura Bennett writing for Gh0stnet, Inc.

Prepared by: Laura Bennett with Gh0stNet, Inc.

We would also like to welcome several businesses to the Gh0stNet, Inc. family.

Pedal Bone Farm - Web Design
Biocarpet - Web Design - Engineered Wood Playground Surfaces
Pickens County Board of Education - Web Development
Side Affect Rocks – Web Hosting - Local Rock Band
