STAR Watch

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1.0, 1.1, 2.0... Get Ready for USB 3.0

Around the beginning of this year, the first USB 3.0 devices began making their way to the computer marketplace. Marketed as "SuperSpeed USB", the newly-arrived devices are not just fast, they are wickedly fast. To help you to gain a perspective on exactly how fast, consider the following: The SATA interface that is used to connect most hard drives to the computer, operates at 3.0 Gigabits per second (Gbps). The new USB 3.0 standard is 60% faster than that.

USB 2.0, the current standard, operates at 480 Mbps. That makes USB 3.0 10x faster than its predecessor. And what about its performance against Firewire (IEEE 1394)? It's no contest. The new USB is 12x faster than Firewire 400 and 6x faster than Firewire 800. As we said earlier, it's extremely fast.

What else?

Being fast is only part of the story. In order to be accepted, a new product needs to be usable by the masses. Will USB 3.0 coexist peacefully with all of the USB 2.0 devices currently in existence or will all of those devices suddenly become obsolete? More great news: Without any adapters or modifications, USB 2.0 and USB 3.0 devices are interconnectable. Your existing USB devices will continue to work. The new standard is backward compatible.

Beyond speed and compatibility, there are other less noticeable, but important improvements. The new USB manages

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power better. It supports idle, sleep and suspend modes, ensuring that USB devices will power down (saving power) and wake up when the computer does. Compared to USB 2.0, it also can provide 50% more power to the connected devices.

Are there any noticeable physical differences between USB 2.0 & 3.0?

Yes, but not that noticeable. The cables used by USB 3.0 devices are slightly different. First, a USB 3.0 cable is thicker than a USB 2.0 cable – about the diameter of an Ethernet cable. This extra thickness is the result of adding four more wires to the cable along with additional shielding.

In addition, the connectors on the ends of the device cable are slightly different. Previously, we stated that USB 2.0 & 3.0 devices are interconnectable. In order to provide that interconnectability, the physical dimensions of the connectors are the same. But something new has been added to the connectors for USB 3.0.

The end of the cable that plugs into the computer or USB hub has a wide, flat connector (USB "A" connector). In order to create a place for the four extra wires in the cable to make contact, deep inside the connector, almost hidden from view, are four additional pins. If that connector is plugged into a USB 2.0 connection, the additional pins have nothing to make contact with. When plugged into a USB 3.0 connection, they make contact and complete an electrical circuit. If an electrical circuit is completed using the extra pins/wires, the device is treated as

USB 3.0, <u>and</u> the device treats the connection as a USB 3.0 connection. If the electrical circuit isn't completed (because the computer/hub, cable, or device isn't USB 3.0 capable), everything operates in USB 2.0 mode. Pretty ingenious.

One last difference between the connectors: The edge of the USB 3.0 connector is colored blue.

I want to buy a USB 3.0 device today but my computer doesn't support USB 3.0

Not to worry. There are dozens of USB 3.0 capable devices available right now and their prices are not noticeably higher than prices for USB 2.0 devices. Do you need a means to connect them to your computer workstation or laptop? PCI cards for workstations and Express cords for laptops are currently available. You don't have to wait if you don't want to.

Is there anything about USB 3.0 that isn't better than its predecessor?

Well, there is one thing: A USB 2.0 device cable can be up to 16 feet long, but electrical issues limit the length of a USB 3.0 cable to 9.75 feet (3 meters). Most users will be able to live with that.



Microsoft Begins Work on Internet Explorer 9

Microsoft is well on its way to replacing its current web browser, Internet Explorer 8, with a completely new web browser, Internet Explorer 9. After reading this statement, many people will roll their eyes, sigh, and mutter to themselves "so what?". This time, it will really matter. IE9 will not be IE8 with a couple new bells and whistles. It will be a complete re-design of the core functions of Internet Explorer.

Over the past few years, the things that can be done over the Internet have gotten to be more sophisticated, but few web browsers could keep up with the changes. In order to provide the newest functionality to web users, developers came up with all manner of web browser add-ons and plug-ins to handle the new features that the browsers couldn't.

Consider just one example: Almost everyone likes to watch streaming video over the Internet. In order to watch that video, users must install the appropriate software to play the streaming video – It might require Windows Media Player, Real Media Player, Quicktime, Macromedia Flash, or some lesser-known product. For each product, it's another install, another product to maintain, more disk space tied up, and one more product to have bugs that crash the computer.

Besides all of those issues, there is a more subtle problem: Users get into the habit of clicking to install new software without questioning whether it should be done. This can eventually lead to the installation of all kinds of malware.

Many of the Internet power users were becoming alarmed by the fact that every new Internet application installed required some additional plug-in to be installed in order to make it work. Things were getting out of control.

While it was good that needs of web users were being addressed, no comprehensive solutions to ever-increasing functionality were being developed. What was needed was organization and standardization. In January, 2008, the first working draft that defined new browser functionality was accepted by the World Wide Web Consortium (W3C), the group that tries to impose some sanity to things that happen on the Internet. The new standards for supported functionality were included in the language specification for HyperText Markup Language version 5 (HTML5).

Fast-forward to recent history when Microsoft announced that it would use HTML5 language spec as the basis for its newest web browser: Internet Explorer version 9. Paraphrasing some comments we made when we talked about the release of the Vista operating system: Don't expect to see radical changes right away if at all. The changes made are deep down in the architecture where they really matter. IE9 will give developers the ability to create web functionality *******************************

that can be implemented without another plug-in. On day one, there will be very few web applications that can operate in "native mode" in IE9. It will take some time.

What will IE9 be able to do? Lots of things. The developers at Microsoft stopped looking back and began to think about the future of the World Wide Web. The IE9 product will provide a solid platform from which to continue grow web functionality.

Background...

Without an understanding of a couple computer concepts, IE9 would appear to be just another version of Microsoft Internet Explorer (yawn). But within this product, the developers have begun to take advantage of several available technologies.

Many of the improvements are possible because of a fundamental change in <u>how</u> things get done. Most people are aware that every computer has a "central processing unit" (CPU). The CPU does the things that most people think of when they think of computers: The CPU does arithmetic operations and moves character data around with great ease. But, when it comes to manipulating 2D or 3D graphic images, the CPU is not so wonderful. It just doesn't have an instruction set that is oriented toward graphics. Is there anything inside of the computer that is good at manipulating graphics?

Well, there is. All computers have monitors and all monitors are capable of displaying graphics. And the reason that monitors can display graphics is the graphic card that takes the information from inside of the computer and processes it into a meaningful visual image. Contained within the graphics card is another processor – the "graphics processing unit" (GPU). This specialized processor is involved in the creation and manipulation of almost every 2D or 3D object placed on a computer's display screen.

Having a GPU in a computer allows the CPU to hand off tasks (that would be very taxing to it) to another hardware unit that can do them more efficiently, allowing the CPU to concentrate on tasks that it is more suited to. With these two processors operating as a team, the computer is capable of significantly faster performance.

Until IE9 came along, previous versions of Internet Explorer did not use the GPU to any meaningful advantage. That left the CPU to do the majority of the graphics work. As we discussed earlier the CPU can handle graphics processing – but not that well. IE9 takes every opportunity to effectively use of the computer's GPU and free up the CPU.

If you could implement IE9 today, what will be different?

From a users point of view, it will appear that not much has changed. But, from a developer's point of view, everything has changed. If all goes according to plan, the biggest benefit to IE9 users running IE9 web applications will be performance: Most of the delays will be gone. All of the things that users do without IE9 will continue to be available with IE9. It's just going to be a lot quicker.

My computer runs Windows XP. How will IE9 work on it?

It won't. IE9 relies on certain operating system functionality that only exists in Vista Service Pack 2 and Windows 7. Currently, these are the only operating systems that will support it. ****************************

More Online Trainings Available

Two new trainings are available for viewing over the web by attorneys and staff. Everyone who wishes to view these trainings must register. There is no charge for viewing these trainings, but there is a processing fee for CLE credit. All of the trainings in this article are currently available.

To view the trainings...

 Start up your web browser and go to this location:

http://onlineresources.wnylc.net

- On the left side of the screen, click on "Online Training"
- Click on the desired training; a registration form will be displayed
- Fill out the registration form; then click on "Submit form"
- A link to the presentation will be sent to the email address provided in the registration form

Representing Homeowners at Mandatory Settlement Conferences

Mandatory settlement conferences are now an integral component to the foreclosure process for subprime loans. The governor has signed a new law that expands the settlement conferences to all residential loans. Pro Bono lawyers have been approved to represent homeowners for the limited capacity of these settlement conferences. This training addresses important considerations for lawyers willing to represent homeowners in this capacity.

Date of presentation: 03/03/2010

Presenters: Rebecca Case-Grammatico, Esq.;

Paul M. Riordan, Esq.; Susan Lerch; Kevin Purcell, Esq.; Alexander Karsten, Esq.

Viewing time: 2 hours 4 minutes

CLE credits: 2.0 Professional Practice

Cost for viewing this training if CLE credit is requested: \$60.00 for Not-for-Profit Agencies; \$90.00 for Private Practice Attorneys. There is no charge for viewing this training unless CLE credit is requested.

Medicaid 101: Health Care Programs for People with HIV

This presentation provides case managers and other client advocates with basic information about the public health care programs in New York State that are key for people living with HIV/AIDS, including Medicaid, ADAP, Child Health Plus and Family Health Plus. Topics include eligibility criteria, fair hearings and some of the common barriers and obstacles clients face when trying to access health care services. This training prepares participants to apply eligibility criteria, identify potential legal issues, present legal references to county workers and make referrals to legal services when necessary.

This presentation is part of a new AIDS Institute funded initiative presenting a broad array of legal topics to HIV service providers across New York State.

Date of presentation: 03/30/2010

Presenter: Geoffrey Hale, J. D., Ph. D., Empire Justice Center

Viewing time: 1 hours 52 minutes

WNYLC Web Statistics For March, 2010

| Total Hits | 547,132 |
|------------------------|---------|
| Number of Pages Viewed | 170,960 |
| Total Visitors | 78,139 |
| Average Hits/Day | 17,649 |
| Average Pages /Day | 5,514 |
| Top Web Browsers Used: | |
| Internet Explorer 8.x | 17% |
| Internet Explorer 7.x | 27% |
| Internet Explorer 6.x | 20% |
| Firefox | 12% |
| Safari | 1% |

| Top 5 Operating Systems Used: | |
|-------------------------------|------|
| Windows 7 | 3% |
| Windows Vista | 14% |
| Windows XP | .50% |
| Windows 2000 | 2% |
| Mac OS | 2% |



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