USB 3.0 Overview

What is USB 3.0?
USB 3.0 is a new specification for USB, known as USB SuperSpeed. The new specification has made many improvements over the USB 2.0 specification. A few of the major improvements is the increased data transfer rate and power. The speed of USB 3.0 surpasses existing USB specifications, eSATA, and IEEE-1394 (FireWire), making it an ideal solution for external data storage media.

What you should know?
- Currently there are only a limited number of USB 3.0 devices on the market, primarily external storage devices.
- External solid state media can now reach full read and write potential using this new specification and hardware.
- It is important to note, that overhead from protocol, hardware limitations, and chipset limitations prevent file transfer at a true 4.8 Gbps. The actual "real world" achievable rate is called the throughput, and is approximately 600 Mbps.
- It is also important to note that USB 3.0 utilizes new connector types. These new connectors will not fit into older USB 2.0 & 1.1 devices; however USB 2.0 & 1.1 cabling will fit into USB 3.0 devices and will operate at lower transfer speeds and features.

What application is it best for?
USB 3.0 is designed for data transfer to and from large mass storage devices. A few examples would be transferring data from a large hard drive, HD video for video editing or Blu-Ray authoring, or high resolution photos for editing and storage.

What hardware is required to experience the benefits of USB 3.0?
A computer equipped with USB 3.0 ports, a USB 3.0 device and USB 3.0 cabling is required to experience the features of the specification. If your computer currently lacks USB 3.0 ports, a PCI Express upgrade card can be installed. If all USB 3.0 ports are occupied, a USB 3.0 hub can be introduced to expand, allowing additional devices to be connected.

USB 3.0	USB 2.0
- 600 mbps throughput - Full duplex communication - 150 mA of power for un-configured devices - 900 – 1000 mA of power for configured Devices - Power standby regulated by host and device	- 60 Mbps throughput - Half duplex communication - 100 mA of power for unconfigured devices - 500 mA of power for configured devices - Powering standby regulated by host