

USB 3.0

Who? What? Where? Why? When? How?

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INNOVATION IN IMAGING



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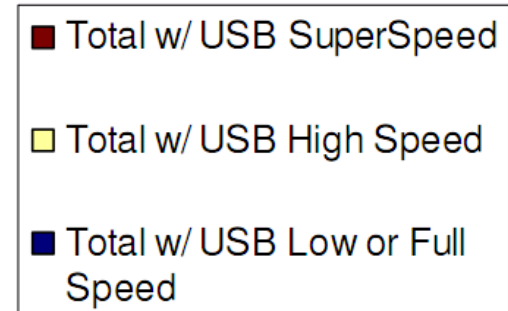
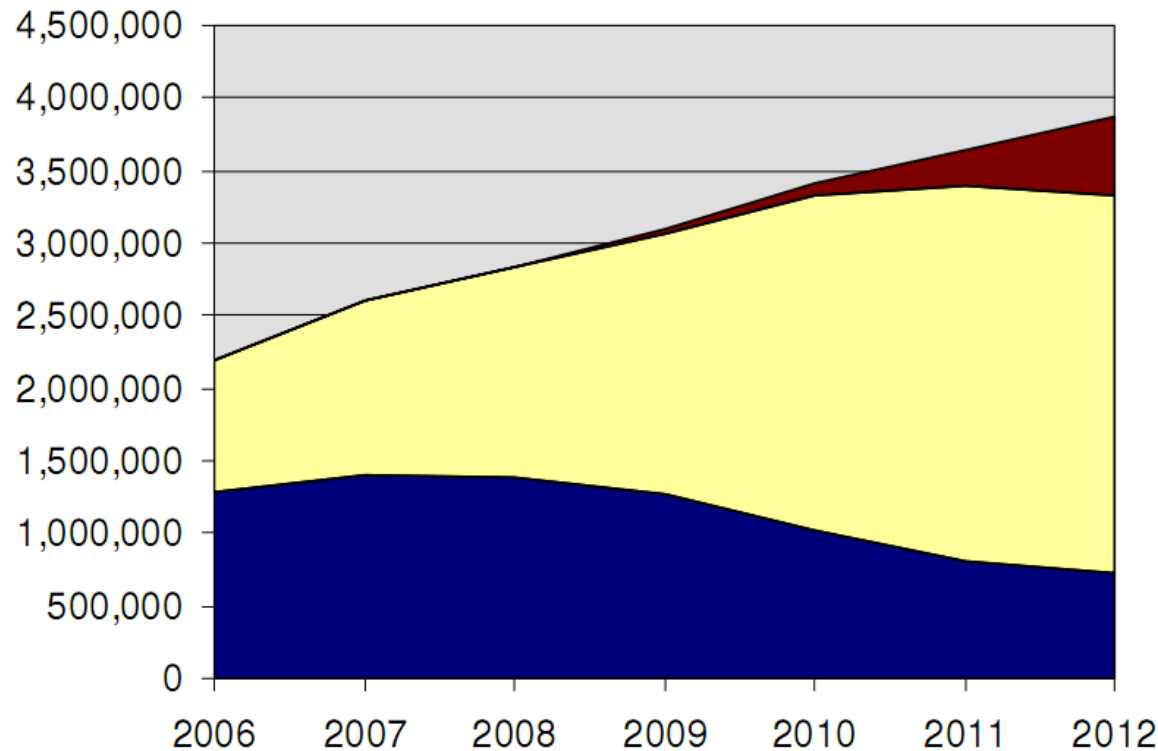


Universal Serial Bus

- USB is the most successful interface in the history of PC
- USB is present in virtually 100% of PCs and peripheral types



Units in Thousands





Who?





What?

- Increase the speed of USB to 5 Gb/s (~10 times faster than USB 2.0)
- Provide effective bandwidth of approximately 400MB/s
- Backward compatible to USB 2.0 at protocol level
- Mostly same connector footprint as USB 2.0
- Lower power consumption
- More power over cable (2.5W to 4.5W)
- Lower software overhead

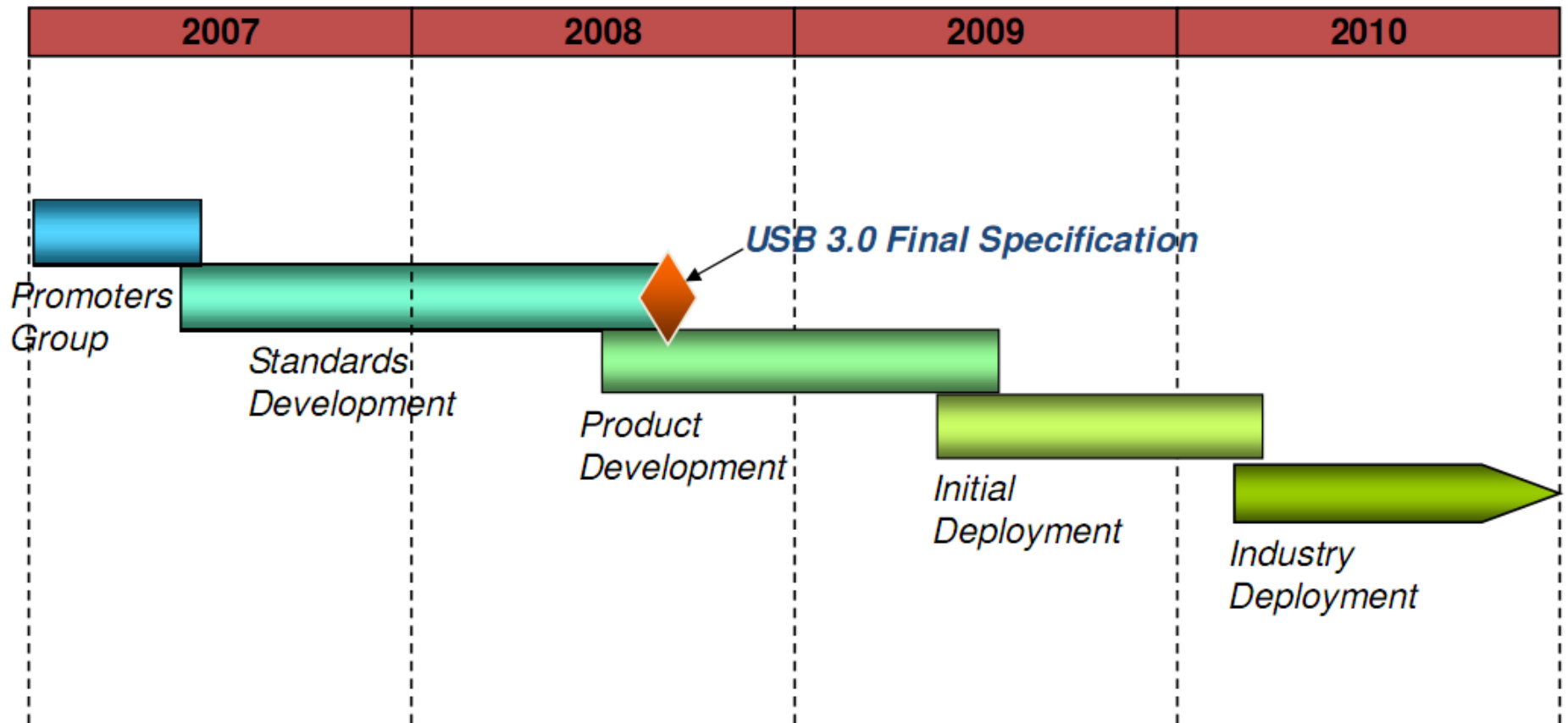


Why?

- USB 3.0 is driven by consumer demand for faster transfer from flash devices storing music, pictures and video
- Keeping USB ahead of the competing interfaces
- Facilitating emerging applications that require high bandwidth such as HD video
- Increase bandwidth for multi peripheral applications



When?





How?

- Based on PCIe GEN2 SERDES technology
- USB 3.0 is in addition to USB 2.0 – separate signaling cables
- Isochronous transmission with significant bandwidth up to 384MB/s
- Fast entry into low power modes to conserve battery life
- New XHCI high performance host adapter interface standard



Impact of USB3 on the Vision industry

- USB is an important interface technology for vision applications
- Primary advantages are:
 - High availability
 - Ease of use
 - Low Cost
 - High bandwidth
- USB 3.0 will address speed and reliability
- USB 3.0 has an opportunity to take over many applications currently serviced by CameraLink
- Due to the lower cost and availability USB 3.0 will open up many new vision applications, especially in the non-industrial markets



Useful links

- <http://www.usb.org/developers/presentations>
- <http://www.lvr.com/usb3faq.htm>
- http://www.denali.com/en/events/usb3_whitepaper



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