



Product Brief

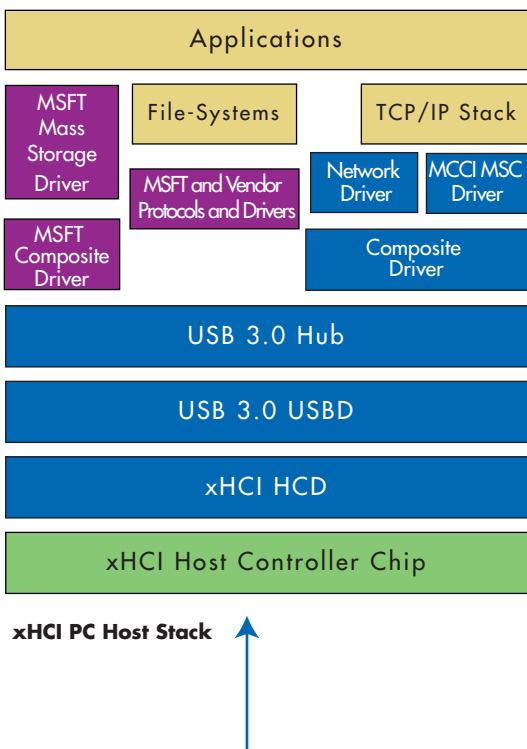
MCCI xHCI SuperSpeed Host Stack

SuperSpeed USB 3.0

Ten times the speed of USB 2.0, 5Gbit/sec SuperSpeed USB 3.0 can handle uncompressed HD video, offering both ultra-low power/bit operation and full back compatibility with USB 2.0. Over time, USB 3.0 connectors are likely to replace video and other connectors on entertainment CE products such as PCs, cell phones, 3G/4G data cards and PC peripherals.

A central tenet of SuperSpeed USB 3.0 is seamless, highly reliable support for legacy devices. Since USB 3.0 uses a new, single xHCI controller and xHCI stack for both legacy and SuperSpeed, a new legacy USB implementation is needed, requiring extensive validation and regression testing. The xHCI stack must also support advanced USB 3.0 capabilities, such as Streaming and Link Power Management.

xHCI Host Stack Block Diagram

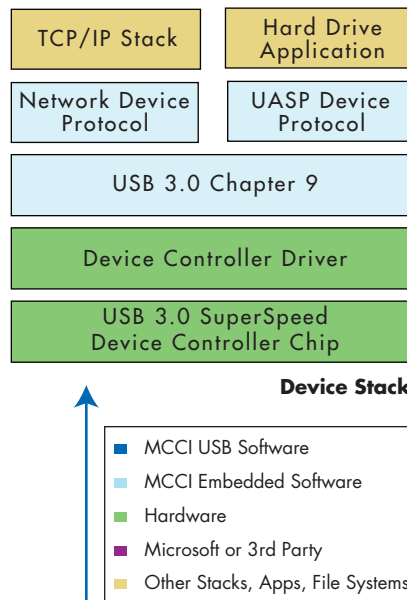


MCCI xHCI Solution

The MCCI USB 3.0 SuperSpeed Host Stack is a Windows WDK compatible kernel driver that operates with Windows 7, XP, Vista, and 2K. It is compatible with all Microsoft class drivers and third-party drivers and protocols. It replaces Microsoft's USB 3.0 stack for both SuperSpeed and legacy support. The MCCI USB 3.0 stack is highly optimized for throughput and low CPU loading.

USB 3.0 streaming is a new capability, used for high performance storage, audio, HD video and other high data rate applications. Currently, there is no Microsoft standard for the streaming APIs. MCCI has published a streams API on www.mcci.com that is stack independent and allows a single device driver to support peripheral xHCI stacks from multiple vendors.

MCCI also provides the highly optimized MCCI ExpressDisk™ BOT and UASP protocols, for storage device OEMs. An MCCI ExpressDrive BOT customer running with the MCCI USB 3.0 stack achieves sustained sequential read speeds of over 300 MBps using the ATTO benchmark. The device is a dual-partition RAID 0 configuration flash drive.



Contents

- SuperSpeed USB 3.0
- xHCI Stack Block Diagram
- MCCI xHCI Solution
- MCCI USB 3.0 End-to-End Solution
- MCCI xHCI Key Features
- Validation Testing

Seamless
Transitions,
Flawless
Connections

MCCI Corporation
3520 Krums Corners Rd.
Ithaca, NY 14850
USA

Tel: +1-607-277-1029
Fax: +1-607-277-6844

sales@mcci.com

Doc No.: 971000646b

© 2010 MCCI

MCCI USB 3.0 End-to-End Solution

In addition to providing the USB 3.0 PC Host Stack and class drivers, MCCI offers the Embedded MCCI USB DataPump® Device and OTG/Host firmware for USB 2.0 and USB 3.0. We work with silicon and chip IP companies, often starting at the FPGA stage. We are active participants in developing both the USB 3.0 standard in USB-IF, and the UAS/UASP standards in both ANSI T.10 (SCSI) and USB-DWG. MCCI has also developed an extensive line of proprietary USB development and validation tools, which are used internally and are offered for licensing.

MCCI xHCI Key Features

| Features | Benefits |
|---|--|
| Supports 2K, XP, Vista, Windows 7 | Single version for all mainstream Windows versions |
| Published Streams API, stack neutral, free for use (UASP) | Single driver works across xHCI stacks from multiple vendors |
| UASP - SCSI/PORT 2K/XP – Storport Vista/Win7 | High performance with new and legacy Windows versions |
| UASP - MSCDVT screening and development versions | UASP SCSI command tester - Quick test and developer versions |
| MCCI ExpressDisk Drivers (with UI and installer) | Disk drive speedup; distributed by HDD or enclosure OEM |
| Leading roles in USB-DWG USB 3.0 protocol development: UASP, NCM, A/V | Architectural level knowledge of key new protocols for USB 3.0 |
| Provides all Windows drivers to support SuperSpeed | Single driver source for device OEMs and ODMs |
| Supports all existing USB 2.0 devices and their drivers | Minimize technical support calls |
| Supports all existing device classes | All standard and vendor-supplied USB drivers work |
| End-to-end solution including embedded device & host | Efficient system-level testing and validation |

Validation Testing

MCCI has developed a validation plan that tests all aspects of the USB 3.0 system and ensures correct operation across the diverse installed base, as well as with new SuperSpeed devices as they are introduced. Regression testing is strictly enforced. MCCI works closely with our OEM customers to ensure proper validation for their requirements.

