



Product Brief

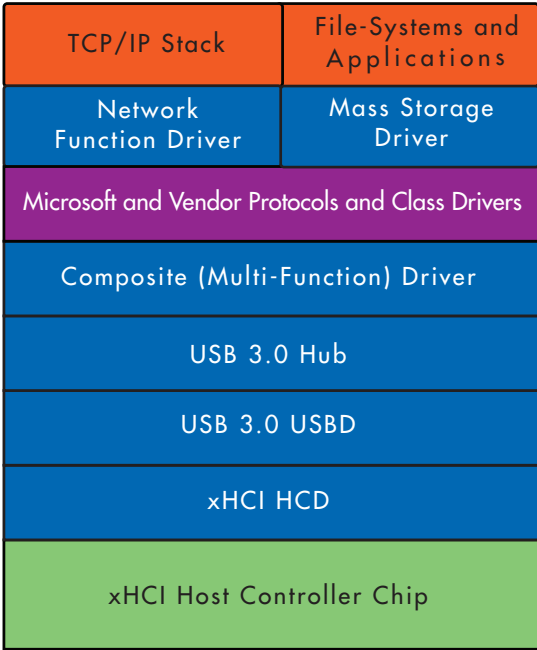
MCCI xHCI SuperSpeed Host Stack

SuperSpeed USB 3.0

The ramp-up of 5 Gbit/s SuperSpeed USB in the PC market has begun, heralded by the production availability of USB 3.0 xHCI controller chips, chip IP, PC motherboards and hard drives. In order to offer this compelling high performance technology, PC OEMs require a new USB Host Software Stack for the xHCI controller. The stack must support both SuperSpeed devices and, of critical importance, the huge installed base of legacy USB 2.0 devices.

The performance and flexibility of USB 3.0 derives from its dual-bus architecture and includes packet routing, command queuing, and streams support. High speed, combined with link and protocol level power management, opens the door to HD video streaming, faster backups, media downloads, and 3G/4G modem connectivity. Cost and weight for mobile PCs are reduced by eliminating the need for network and video connectors.

xHCI Host Stack Block Diagram



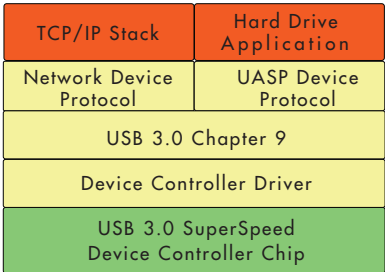
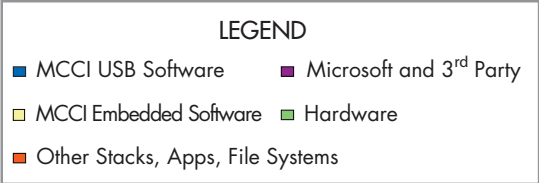
MCCI xHCI Solution

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.

There are two key user experience criteria in selecting a USB 3.0 Host stack — USB 3.0 performance, and reliable legacy device support. The MCCI USB 3.0 stack is highly optimized for throughput and low CPU loading, including BOT/MSC and UASP protocol support. Early USB 3.0 systems with the MCCI USB 3.0 stack and storage drivers show sustained data rates of 270 MBytes/sec.

A central tenet of the SuperSpeed marketing proposition 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.

xHCI Host Stacks for OS X and Linux are planned, please inquire.



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Seamless Transitions, Flawless Connections

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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 OEMs, 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 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.

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. Microsoft class driver compatibility, standards compliance, and OS version configuration management across the four supported Windows versions are all tested. Regression testing is strictly enforced. MCCI works closely with our OEM customers to ensure proper validation for their requirements.

