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# Project Proposal
# for a new
# INCITS Standard

# USB Queuing Transport
# (UQT)

**20 September 2007**

## 1 Source of Proposed Project

**1.1 Title:** USB Queuing Transport.

**1.2 Date Submitted:** 20 September 2007.

**1.3 Proposing Group:** INCITS TC T10. Seven T10 members are also INCITS members.

## 2 Process Description for the Proposed Project

**2.1 Project Type:** D - Development.

**2.2 Type of Document:** Standard.

**2.3 Definitions of Concepts and Special Terms:** none.

**2.4 Expected Relationship with Approved Reference Models, Frameworks, Architectures, etc.**
None, it is expected that this standard will be used in closed systems.

**2.5 Recommended INCITS Development Technical Committee:** T10.

**2.6 Anticipated Frequency and Duration of Meetings**
Technical Committee T10 meets on a regularly scheduled basis (see http://www.t10.org for the current meeting schedule). Specific task ad hoc groups are called as required between the regular meetings but their results are not binding.

**2.7 Target Date for Initial Public Review (Milestone 4):** *November 2008*

**2.8 Estimated Useful Life of Standard or Technical Report:** 10 Years.

## 3 Business Case for Developing the Proposed Standard or Technical Report

### 3.1 Description
USB Queuing Transport is a new generation of USB Transport Standards. This standard should support the following features in support of USB-2 and future USB specifications:

1) mechanism to send commands associated with any T-10 standard to a USB device;
2) support for queuing in the transport;
3) support for auto-sense;
4) compliance with SAM;
5) support for 32 byte CDB's and service actions; and
6) Other capabilities that may fit within the scope of this project.

### 3.2 Existing Practice and the Need for a Standard
The existing USB Mass Storage Class specifications are available from the USB-IF web site (www.usb.org)

USB Mass Storage devices communicate using SCSI CDB's. The transport mechanism was defined in 1997 (10 years ago). In 1997, USB was operating at a speed roughly equivalent to a PC Architecture parallel port. Since that time, the USB-2 Specification released and the bit rate increase from 48MHz to 480MHz. USB-2 mode the data transfer rate (approx 40MB/s) appropriate for slower hard drives adn, flash drives. However, the USB transport mechanism for Mass Storage devices was never updated. There may be a future specification in development which may significantly increase the data transfer rate over USB.

## 3.3 Implementation Impacts of the Proposed Standard

### 3.3.1 Development Costs
Members of T10 will provide the necessary resources. The T10 members will host the required meetings for development, provide for the necessary lab experiments, and provide the Technical Editor for the project.

### 3.3.2 Impact on Existing or Potential Markets
This proposed project is intended to provide a more consistent driver interface for ___ solutions. This ensures that investments in such solutions have a stable managed migration path in the face of technological development.

### 3.3.3 Costs and Methods for Conformity Assessment
The committee will consider the results of testing as may be available to the committee through the voluntary efforts of the various participants in T10. With this method all costs are borne by the organizations of the various participants and have for the most part been mainly an adjunct of their normal development costs.

### 3.3.4 Return on Investment
ROI information is considered proprietary data by the member organizations, but members have stated that the ROI is expected to be large.

## 3.4 Legal Considerations

### 3.4.1 Patent Assertions
Calls will be made to identify assertions of patent rights in accordance with the relevant INCITS, ANSI, and ISO/IEC policies and procedures.

### 3.4.2 Dissemination of the Standard or Technical Report
Drafts of this document will be disseminated electronically. Dissemination of the final standard will be restricted, as the document becomes property of INCITS, ANSI, and/or ISO/IEC.

## 4 Related Standards Activities

## 4.1 Existing Standards:

| ID Number | Title |
|---|---|
| ISO/IEC 14776 | Multipart SCSI standard |
| INCITS 366-2003 | SCSI Architecture Model - 2 (SAM-2) |
| INCITS 351-2001 | SCSI Primary Commands - 2 (SPC-2) |
| INCITS 376-2003 | Serial Attached SCSI (SAS) |

## 4.2 Related Standards Activity

| ID Number | Title |
|---|---|
| T10/1561-D | SCSI Architecture Model - 3 (SAM-3) |
| T10/1683-D | SCSI Architecture Model - 4 (SAM-4) |

| | |
|---|---|
| T10/1416-D | SCSI Primary Commands - 3 (SPC-3) |
| T10/1729-D | SCSI Primary Commands - 4 (SPC-4) |
| T10/1601-D | Serial Attached SCSI - 1.1 (SAS-1.1) |
| T13/1532-D | AT Attachment - 7 with Packet Interface (ATA/ATAPI-7) |
| T13/1697-D | AT Attachment - 8 - Serial Transport (ATA8-ST) |
| T13/1699-D | AT Attachment - 8 - ATA/ATAPI Command Set (ATA8-ACS) |
| T13/1700-D | AT Attachment - 8 - Architecture Model (ATA8-AM) |

## 4.3 Recommendations for Close Liaison

Technical Committee T13.

## 5 Units of Measurement used in the Standard

The International System of Units (SI) units will be used.