

To: T10 Technical Committee
From: Rob Elliott, HP (elliott@hp.com)
Date: 25 September 2007
Subject: 07-417r0 Minutes of UQT study group

Agenda

1. Opening remarks
2. Approval of agenda
3. Attendance and membership
4. Topics
 - 4.1 07-416r0 USB Queuing Transport (UQT) study group introduction (Rob Elliott, HP)
 - 4.2 07-400r0 USB Queuing Transport (UQT) project proposal (Curtis Stevens, WD)
5. Meeting schedule and future plans
6. Adjournment

Results of meeting

1. Opening remarks

Curtis Stevens called the meeting to order at 12:15 p.m. Wednesday 19 September 2007. He thanked Tim Symons of PMC-Sierra for hosting the meeting and John Lohmeyer of LSI for providing a projector. As usual, the people present introduced themselves.

2. Approval of agenda

The agenda was created at the meeting and approved.

3. Attendance and membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 membership. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work.

The following people attended the meeting:

- Jim Bovee, Microsoft
- Roger Cummings, Symantec
- Rob Elliott, HP
- Steve Fairchild, HP
- John Geldman, Lexar
- John Lohmeyer, LSI
- Kevin Marks, Dell
- Steve McGowen, Intel
- Jay Neer, Molex
- Bob Nixon, Emulex
- Robert Payne, Iomega
- Mark Seidel, Intel
- Curtis Stevens, Western Digital
- Ralph Weber, ENDL

14 people present

4. Topics

4.1 07-416r0 USB Queuing Transport (UQT) study group introduction (Rob Elliott, HP)

This set of slides introduces the idea of a new SCSI mapping for USB, supporting queuing, autosense, and otherwise being SAM-4 compliant.

Steve McGowen (Intel) asked whether a mapping of Serial ATA over USB would be more beneficial, given that most USB disk drive targets consist of USB-to-ATA bridges. Curtis Stevens (Western Digital) said disk drive vendors may be moving to native USB implementations, and the current USB software infrastructure is

already settled. John Goldman (Lexar) explained that USB flash devices often have native silicon; ATA would be a major change for them.

The group discussed out-of-order data delivery and its potential impact on USB host interface designs. Commands completing out of order (due to queuing) should be viable; out-of-order data delivery within a command could complicate designs. Steve McGowen (Intel) suggested that SCSI tags could map to multiple flows to handle command queuing without requiring significant USB host interface rearchitecture. For efficiency, the tag needs to be somewhere in the USB header.

At the Intel Developers Forum on Tuesday 18 September 2007, USB 3.0 was announced. The intent is to "deliver of 10 times the speed of today's connection" (i.e., about 5 Gbps). The specification is "expected by the first half of 2008." Although the goal of the T10 project is to define a SCSI transport protocol that works on USB 2.0, it should also take advantage of USB 3.0 features.

4.2 07-400r0 USB Queuing Transport (UQT) project proposal (Curtis Stevens, WD)

Curtis reviewed a T10 project proposal for a USB Queued Transport protocol standard.

Ralph Weber (ENDL) cautioned that including "queuing" in the name could seem antiquated in UQT-2, UQT-3, etc. The group discussed potential alternatives like USB SCSI Transport (USB), USB SCSI Protocol (USP) (in 07-400r1, Curtis chose "USB Attached SCSI (UAS)").

A vote on the project proposal is expected in the November T10 plenary.

5. Meeting schedule and future plans

During November T10 week, we will ask for a few hours in the CAP WG meeting for this topic.

Once the project proposal is recommended, a working group will be formed and have its own meetings during T10 weeks. The best T10 meeting week times for the WG will be Thursday after the T10 plenary (which usually ends around 4pm) or Friday morning - fitting in the meeting ahead of the T10 plenary will be difficult due to all the other meetings. Conference calls may also be scheduled.

Curtis plans to have a first draft ready around January 2008.

6. Adjournment

The meeting was adjourned at 1:30 p.m.