To: T10 Technical Committee
From: Chandru Sippy, QLogic Corp.
Subject: Bus Width Determination

The current implementation of the standard inquiry data simply reports the
capability of the target. Specifically, it lets the Initiator know whether it is
capable of handing 8, 16, or 32 bits of data transfer. The target however does not
really know the type of cable that is physically attached to the SCSI bus between
the two devices. However, if any given device can make this determination then it
can render a service to all the devices that may be on the same physical
connection.

Qlogic proposes that 2 new bits be defined as follows:

Inquiry Data Byte 5, bits 6-5 are currently reserved. They could be redined as:

Bit 6 **Bit 5**   **Meaning**

  0   0   Target cannot determine the type of cable attached
  0   1   16-bit SCSI Cable attached
  1   0   32-bit cable attached
  1   1   8-bit SCSI Cable attached.

The above re-definitions will work for the current applications. However, it does
not adequately address any future bus expansions.

The issue can be resolved later or one can simply use a portion of byte 1 bits 6 -
0 (of the inquiry data) to convey the type of the physical cable attached. The
bits mentioned above can then be used for future bus expansions if needed.
Naturally, the exact format should be approved by the SCSI comittee members.

Exactly how a target determines the type of cable attached is vendor proprietary.
All we need is a way to report it via the Inquiry Data Fields.