To: **T10 Membership**
From: **Lawrence J. Lamers, John Lohmeyer**
Subject: **Enabling Upper Byte Hamming**
Date: **Wednesday, March 24, 1999**

This proposal presents a method for enabling the upper byte hamming code protection advocated by Compaq.

The upper byte hamming code protection is likened to parity in its purpose and function. Parity is currently not negotiated. Rather than negotiate the enabling it seems possible for the initiator and target to determine if the upper byte hamming code is being generated by a simple test during the basic domain validation routine.

This method is reliable because the occurrence of an error is extremely small; and the likelihood of an error occurring on several bytes is infinitesimal.

1) All devices supporting the upper byte hamming code protection shall generate the code on all COMMAND, MESSAGE, and STATUS phases.
2) If upper byte hamming code protection detection is enable, via a mode parameter for targets and user configuration for initiators, then the device shall check the upper byte.
3) If the upper byte hamming code is detected during message and command received by the target it shall use the upper byte hamming code protection detection on that I_T nexus for subsequent I/O processes until a power on/reset condition occurs.
4) If the upper byte hamming code protection is received by the initiator on the status and command completion message and if the UBHCP bit is set in the INQUIRY data it shall use the upper byte hamming code protection detection on that I_T nexus for subsequent I/O processes until a power on/reset condition occurs.