Accredited Standards Committee
X3, Information Processing Systems

Doc: X3T10.1/95a223r0
Date: November 20, 1995
Project: 0989D
Ref Doc.: X3T10.1/0989D
Reply to: Aaron Dailey

To: X3T10.1 Membership
From: Aaron Dailey
Subject: SMS Support for Speed Negotiation

Background:

The speed negotiation will normally find the optimal operating speed for communication between two nodes. However, there may be cases where the automatic negotiation process fails to produce the optimal operating speed. An example of this would be excessive Link ERP invocations due to faulty cables, in which case a lower operating speed may be indicated.

Proposal:

Add two bytes, at positions 15 and 16, in the Configure Port SMS. This is the supported port mask. This mask is bitwise and'd with the node's supported speeds to produce the list of speeds that the node will use for speed negotiation.

A value of zero indicates no mask.

If a non zero mask when and'd with the node's supported speeds results in 0 (i.e. the node effectively supports no speeds), the node will return a response SMS with value invalid field, and not set its mask. Masking unsupported speeds is not an error.

Power on reset state is no mask (which of course may be implemented as a mask of 0xffff). Absolute and total reset resets state to no mask. Link reset and local reset do not affect the mask.

The act of setting the mask will not change the current speed. To actually initiate the speed negotiation with the new mask, the procedure is to place one of the ports into wrap mode and then place it into privileged mode using configure port SMS. The choice of which port on the link to transition between modes is arbitrary save that it must follow the rules listed for configure port SMS.