

SAS Expander Connection Link Rate Handling

To: T10 Technical Committee
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Date: 24 October 2002
Subject: T10/02-438r0, SAS Expander Connection Link Rate Handling

Revision History

Revision 0 (24 October 2002) first revision

Related Documents

SAS-r02b – Serial Attached SCSI revision 02b.

Overview

In order to support dynamic link rate connection request, the expander needs to notify the OPEN Address Frame originator when the requested end-to-end connection request link rate is higher than highest available end-to-end link rate from the set of possible pathways between the specified source and destination as determined by the lowest negotiated link rate through any link in the pathway from source to destination. The connection request originator may retry the connection with lower end-to-end link rate at reduced performance with other available links to reduce connection request latency.

Suggested Changes

When the expander receives a connection request specifying a higher link rate in the OPEN Address Frame than any of the negotiated link rates of all available non-busy link or links within the wide links group to the selected target and there are other links representing potential pathways to the target which are not busy but support a lower link rate than the requested end-to-end link rate, the expander SHALL respond with OPEN_REJECT (LINK RATE TOO HIGH) to the connection request originator. If all links are busy, the expander shall wait (subject to PPTOV rules) until a non-busy link is available. If the PPTOV timer expires the expander shall respond with OPEN_REJECT (PATHWAY BLOCKED).

The connection request originator may retry the connection request specifying a lower end-to-end link rate.