

Date: August 30, 2002

To: T10 Committee (SCSI)

From: George Penokie (IBM/Tivoli)

Subject: SAS-Multiple Connections on Wide Ports

## 1 Overview

Placing connections on SAS ports with multiple links is not very well defined in SAS rev 01. This is a proposal to add in figures and text into the model section on SAS that describes that function.

### 4.1.11 Connections on wide ports

The port layer may establish multiple connections on a wide port however the number of connections shall not exceed the number of phys within the wide port (i.e., only one connection per phy is allowed) and there shall be a separate connection on each link.

Multiple connections may be established by the port layer between the following if multiple pathways are configured between the initiator port(s) and the target port(s):

- a) one initiator port to multiple target ports;
- b) one target port to multiple initiator ports; or
- c) same initiator port and target port.

NOTE 1 The method for configuring pathways is outside the scope of this standard.

Once a connection is established the pathway used for that connection shall not be changed (i.e., all the links that make up to pathway remain dedicated to the connection until it is closed).

See 9.2.2 for rules on creating I\_T\_L\_Q nexuses and on transmitting information units when there are multiple connections between the same initiator port and target port.

See figure 1 for examples of connections between wide ports.

In figure 1 all the connections shown may occur simultaneously.

In figure 1:

- a) the connections labeled A and B are an example of one initiator port with connections to multiple target ports;
- b) the connections labeled A and C are an example of one target port with connections to multiple initiator ports;
- c) the connections labeled E and F are an example of multiple connections between the same initiator port and target port; and
- d) the connections labeled C, D, E, and F are an example of one initiator port with connections to multiple target ports with one of those target ports having multiple connections with that initiator port.

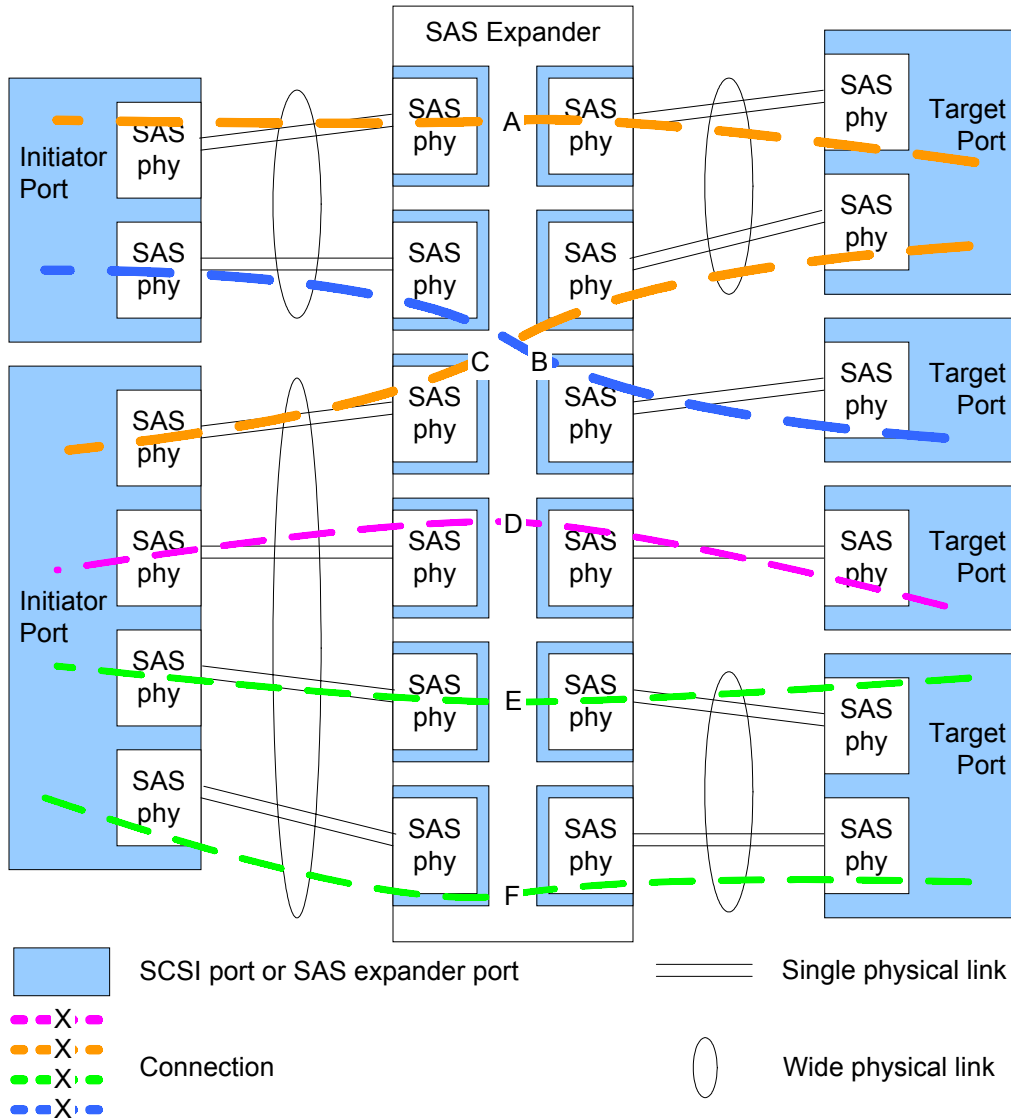


Figure 1 — Multiple connections example