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FROM: Peter Johansson  
TO: IEEE P1394a Working Group  
DATE: September 2, 1997  
RE: Minimum SPLIT\_TIMEOUT values

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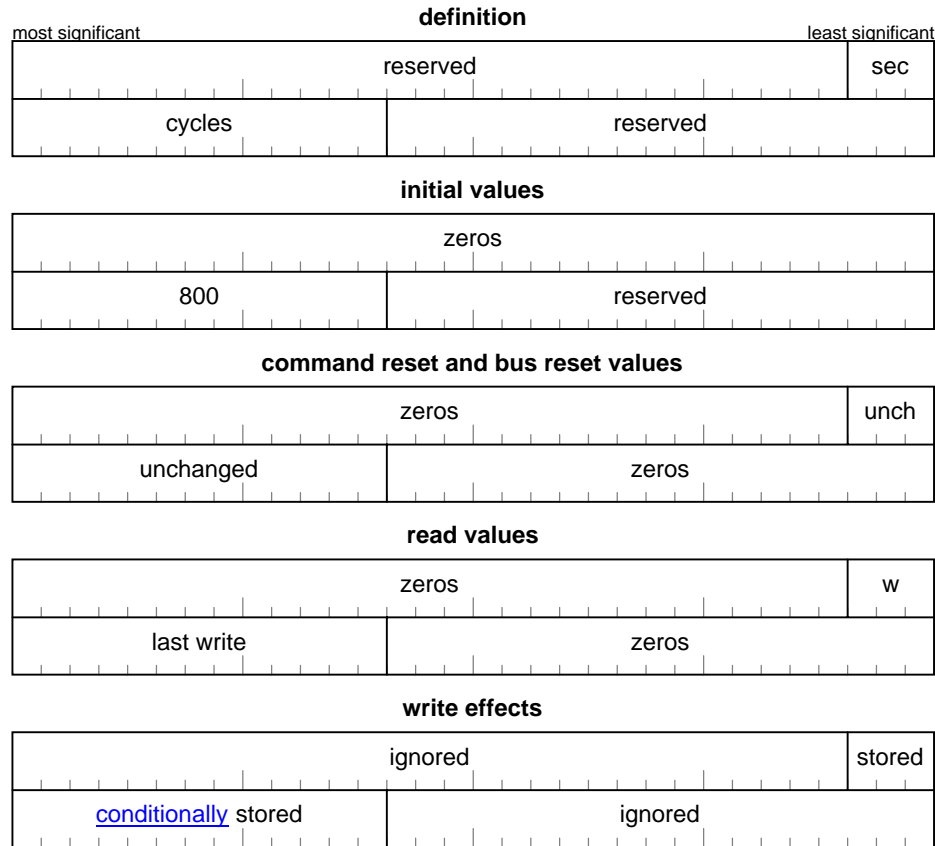
Disk vendors have raised concerns in the T10 SBP-2 working group that they may not be able to support split time-out values below some minimum value.

Independently, I believe that all nodes on a bus need to share the same split time-out value and that the responder's behavior after expiration of the time-out needs to be specified.

I propose the following for section 9 of P1394a.

## 9.x SPLIT\_TIMEOUT register

The SPLIT\_TIMEOUT registers set the default timeout value for detecting split-transaction errors. The value of SPLIT\_TIMEOUT sets the maximum time for the receipt of a response subaction after the transmission of a request subaction. After this time, [a responder shall not transmit a response for the request subaction](#); a requester should terminate the transaction with a [response\\_timeoutrequest](#) status of [TIMEOUT](#). Figure9-x illustrates the portions of the SPLIT\_TIMEOUT register implemented on Serial Bus.



**Figure 9-x – SPLIT\_TIMEOUT format**

[The \*sec\* field, in units of seconds, and the \*cycles\* field, in units of 125  \$\mu\$ s, together specify the time-out value. The value of \*cycles\* shall be less than 8000. All nodes on a bus shall have identical values in their SPLIT\\_TIMEOUT registers.](#)

[The minimum timeout value is 0.1 second. If a value smaller than this is written to the SPLIT\\_TIMEOUT register it may be ignored or rounded up to 0.1 second.](#)

~~Since the Serial Bus SPLIT\_TIMEOUT\_HI register implements only the three least-significant bits, the timeout can be no longer than 8 s.~~

~~The Serial Bus SPLIT\_TIMEOUT\_LO register implements only the 13 most significant bits. These bits specify a fractional value of a second in units of 1/8000 s, rather than 1/8192 s as specified by the CSR Architecture. The timeout resolution is nominally 125 ms.~~

NOTE— The Serial Bus definition of the SPLIT\_TIMEOUT register is different from that defined within the CSR Architecture. Serial Bus interprets the most significant 13 bits of the SPLIT\_TIMEOUT\_LO register as units of 1/8000 s, rather than a true binary fraction of a second with units of 1/8192 s. Since precise timeouts are not necessary, applications may ignore this difference when calculating values for use within the SPLIT\_TIMEOUT\_LO register.