

FCP-4: Require continuously increasing SEQ_CNT

(T10/06-399r0)

Dave Peterson, McDATA

The subject of requiring the use of continuously increasing SEQ_CNT in FCP-4 has been discussed by the working group to enable detection of missing Sequences. In August the working group gave me an action item to send a message to the reflector and to create a proposal.

I have received one reply (HP) indicating support for the requiring the use of continuously increasing SEQ_CNT.

Proposal:

5.2.7 SEQ_ID field

The value in the SEQ_ID field identifies each Sequence between a particular Exchange Originator and Exchange Responder with a unique value as defined by FC-FS-2. [Continuously increasing SEQ_CNT management shall be used \(see FC-FS-2\) to determine the SEQ_CNT for all frames that carry FCP IUs. An FCP_Port shall set the SEQ_CNT bit in PLOGI to one.](#)

8.2 Sequence Retransmission Request (SRR)

For unacknowledged classes, the Sequence Count for a retransmitted FCP_DATA IU **shall** start at zero, even **if though** continuously increasing sequence count is being used.

12.1.2 Sequence level

This clause defines the error detection and recovery mechanisms for fabrics that guarantee in-order frame delivery. However, **if since** continuously increasing sequence count is used and if support for recovery qualifiers is fully implemented as defined in FC-FS-2, the same recovery mechanisms may be used for fabrics that do not guarantee in-order frame delivery, as shown in the examples in Annex C.

or:

This clause defines the error detection and recovery mechanisms for fabrics that guarantee in-order frame delivery. However, ~~if continuously increasing sequence count is used and~~ if support for recovery qualifiers is fully implemented as defined in FC-FS-2, the same recovery mechanisms may be used for fabrics that do not guarantee in-order frame delivery, as shown in the examples in Annex C.

12.4.1.6 FCP_DATA IU recovery - write operations

The FCP_DATA IU shall be retransmitted in a new Sequence. For acknowledged classes, the SEQ_CNT field value shall be one greater than that used to transmit the last Sequence, usually the ABTS. For unacknowledged classes, the SEQ_CNT field value **may** start at zero, even **if though** continuously increasing sequence count is being used.

12.4.1.7 FCP_DATA IU recovery - read operations

The FCP_DATA IU shall be retransmitted in a new Sequence. For acknowledged classes, the SEQ_CNT field

value shall be one greater than that used to transmit the last Sequence, usually the ABTS. For unacknowledged classes, the SEQ_CNT field value **may** start at zero, even **if though** continuously increasing sequence count is being used.

Table C.1 - Diagram Drawing Conventions

Error detection complete.

~~CI Continue: Error detection complete. Operation continues with specified error recovery if continuously increasing Sequence count prerequisites are met.~~

Continue: Error detection complete. Operation continues with specified error recovery. ~~if continuously increasing Sequence count prerequisites are not met.~~

All instances of CI Continue change to Continue in the Annex C examples:

Figure C.6 - change CI Continue to Continue and remove the bottom Continue

Figure C.9 - change CI Continue to Continue and remove the bottom Continue

Figure C.10 - change CI Continue to Continue and remove the bottom Continue

Figure C.14 - change CI Continue to Continue and remove the bottom Continue

Figure C.16 - change CI Continue to Continue and remove the bottom Continue

Figure C.18 - change CI Continue to Continue and remove the bottom Continue

Figure C.20 - change CI Continue to Continue and remove the bottom Continue

Figure C.24 - change CI Continue to Continue and remove the bottom Continue