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T10/98-165v0

Suggested FCP-2 Enhancements For Tape



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List of Proposed Enhancements

- Command Reference Number for command ordering
- FCP_CONFIRM IU for confirmed delivery of FCP_RSP in Class 3



Command Reference Number

- Enabled by PRLI
 - Byte 3 bit 8 to employ Command Sequence Numbering
- Embed Command Sequence Number in Byte 0 of FCP_CNTL field of FCP_CMND
 - Continuously increasing on an I-T-L nexus
 - Target can detect out-of-order command & respond to it
 - Initiator not to reuse sequence number until delivery confirmed
- Target presents Response Code for lost commands
 - May elect to wait R_A_TOV for out-of-order command if FLOGI allowed OOO delivery
 - RSP_CODE 06 to mean Command Received Out Of Order; all OOO commands aborted
 - Initiator to abort lost command(s) with ABTS and reissue with correct sequence number, new OX_ID; Clear Queue resets sequence number to 0.
- Delivery confirmation via
 - FCP_XFER_RDY, FCP_DATA, or FCP_RSP; Acceptance of next command; REC.



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FCP_CONFIRM

- Enabled by PRLI
 - Byte 3 bit 7 to enable FCP_CONFIRM
- Requested on each FCP_RSP requiring confirmation
 - Byte 2 Bit 4 indicates FCP_CONF required
 - Last Sequence bit not set in F_CTL
- FCP_CONFIRM has IC = 3
 - Last Sequence bit set in F_CTL
 - No payload