



InterNational Committee for Information Technology Standards (INCITS)

Secretariat: Information Technology Industry Council (ITI)

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To: INCITS Members

Reply To: [Rachel Porter](#)

Subject: Public Review and Comments Register for the Approval of:

INCITS 481-2011/AM1: Information technology - Fibre Channel Protocol for SCSI - 4 (FCP-4) - Amendment 1

Due Date: The public review is from April 28, 2017 to June 27, 2017

Action: The InterNational Committee for Information Technology Standards ([INCITS](#)) announces that the subject-referenced document(s) is being circulated for a 60-day public review and comment period. Comments received during this period will be considered and answered. Commenters who have objections/suggestions to this document should so indicate and include their reasons.

All comments should be forwarded not later than the date noted above to the following address:

INCITS Secretariat/ITI
1101 K Street NW - Suite 610
Washington DC 20005-3922
Email: comments@standards.incits.org (preferred)

This public review also serves as a call for patents and any other pertinent issues (copyrights, trademarks). Correspondence regarding intellectual property rights may be emailed to the INCITS Secretariat at patents@itic.org.

American National Standard for Information Technology – **Fibre Channel Protocol for SCSI, Fourth Version (FCP-4)**

2.2 Approved references

INCITS 332:1999, *Fibre Channel Arbitrated Loop - 2 (FC-AL-2)*

INCITS 544-2017, *Fibre Channel - Single-Byte Command Code Sets - 6 (FC-SB-6)*

INCITS 470-2011, *Fibre Channel Framing and Signaling Interface - 3 (FC-FS-3)*

INCITS 477-2011, *Fibre Channel - Link Services - 2 (FC-LS-2)*

INCITS 463-2010, *Fibre Channel Generic Services - 6 (FC-GS-6)*

INCITS/TR-49-2012, *Fibre Channel - Device Attach - 2 (FC-DA-2)*

INCITS 513-2015, *SCSI Primary Commands - 4 (SPC-4)*

INCITS 515-2016, *SCSI Architecture Model - 5 (SAM-5)*

2.3 References under development

At the time of publication, the following referenced standards were still under development. For information on the current status of the documents, or regarding availability, contact the relevant standards body as indicated.

INCITS 540, *Fibre Channel - Non-Volatile Memory Express (FC-NVMe)*

NOTE 1 - For more information on the current status of these documents, contact the INCITS Secretariat at 202-737-8888 (phone), 202-638-4922 (fax) or via Email at incits@itic.org. To obtain copies of these documents, contact Global Engineering at 15 Inverness Way, East Englewood, CO 80112-5704 at 303-792-2181 (phone), 800-854-7179 (phone), or 303-792-2192 (fax) or see <http://www.incits.org>.

5.2.5 TYPE field

The value in the TYPE field shall be 08h (i.e., Fibre Channel Protocol) (see FC-FS-3) for all frames of SCSI FCP Exchanges.

A TYPE field value of 08h is also used for Information Units specified in FC-NVMe and FC-SB-6.

Table 22 - FCP Information Units (IUs) sent to initiator FCP_Ports

IU	Description	Data block		F/M/L	SI	M/O																								
		R_CTL field	Content																											
I1	Data-Out delivery request	05h	FCP_XFER_RDY (Write)	M	T	M																								
I3	Data-In action	01h	FCP_DATA	M	H	M																								
I4	Command/Task management response	07h	FCP_RSP	L	T	M																								
I5	Response (Confirm request)	07h	FCP_RSP	M	T	O																								
I8	Extended Response	08h	(see FC-NVMe)																											
I9	Extended Response (Confirm response)	08h	(see FC-NVMe)																											
<p>Notes:</p> <p>I2, I6, and I7 are obsolete.</p> <p>I5 is permitted to request the confirm completion protocol.</p> <p>I3 allows optional Sequence streaming to I3, I4, or I5.</p> <p>Key:</p> <table> <tr> <td>IU</td> <td>Information Unit identifier</td> </tr> <tr> <td>Content</td> <td>Contents (payload) of data block</td> </tr> <tr> <td>F/M/L</td> <td>First/Middle/Last Sequence of Exchange (FC-FS-3)</td> </tr> <tr> <td>F</td> <td>First</td> </tr> <tr> <td>M</td> <td>Middle</td> </tr> <tr> <td>L</td> <td>Last</td> </tr> <tr> <td>SI</td> <td>Sequence Initiative: Held or Transferred (FC-FS-3)</td> </tr> <tr> <td>H</td> <td>Held</td> </tr> <tr> <td>T</td> <td>Transferred</td> </tr> <tr> <td>M/O</td> <td>Mandatory/Optional Sequence</td> </tr> <tr> <td>M</td> <td>Mandatory</td> </tr> <tr> <td>O</td> <td>Optional</td> </tr> </table>							IU	Information Unit identifier	Content	Contents (payload) of data block	F/M/L	First/Middle/Last Sequence of Exchange (FC-FS-3)	F	First	M	Middle	L	Last	SI	Sequence Initiative: Held or Transferred (FC-FS-3)	H	Held	T	Transferred	M/O	Mandatory/Optional Sequence	M	Mandatory	O	Optional
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O	Optional																													

9.2.2.1 FCP_LUN field

If the value of byte zero of the FCP_LUN field is equal to FDh and the value of byte one of the FCP_LUN field is equal to 28h, then see FC-NVMe.

If the value of byte zero of the FCP_LUN field is equal to FEh, then see FC-SB-6.

If the value of byte zero of the FCP_LUN field is not equal to FDh or FEh, then the FCP_LUN field contains the LUN of the logical unit in the SCSI target device. See SAM-5.

If the FCP_LUN field contains a valid LUN, then the command or task management function shall be routed to the specified logical unit. If the addressed logical unit does not exist, then the SCSI target device shall follow the rules for responding to selection of an incorrect logical unit as specified in SAM-5.