

To: INCITS Technical Committee SCSI

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Document: T10/24-019r0 — SSC-5 AM1: Reservation Information for last failed reservation



Revisions

24-019r0 (25 January 2024)

Initial version ([thanks to Curtis Ballard for initial review](#))

Introduction

There is a need to be able to, after a reservation is released, determine who the reservation holder was for the last failed attempt to create a reservation.

This proposes an addition to SCSI Stream Commands - 5 Amendment 1 (SSC-5/AM1) Revision 00

Key	
Deleted Text	Added Text

1 Changes to Dynamic runtime attributes

8.2.2.2 Device type attributes

Device type attributes (see table 1) shall be maintained and updated by the device server. All supported device type attributes shall have a status of read only (see 8.2).

Table 1 – Device type attributes

Attribute Identifier	Name	Attribute Length (in bytes)	Format	Reference
0000h	NUMBER OF I_T NEXUSES SUPPORTED BY DYNAMIC RUNTIME ATTRIBUTES	2	BINARY	8.2.2.2.2
0001h	TIMESTAMP WHEN PROCESSED	12	BINARY	8.2.2.2.3
0010h	RESERVATION INFORMATION	variable	BINARY	8.2.2.2.4
0011h	REGISTRATION INFORMATION	variable	BINARY	8.2.2.2.5
0012h	PREVENT ALLOW MEDIUM REMOVAL INFORMATION	variable	BINARY	8.2.2.2.6
0013h	LAST FAILED RESERVATION	variable	BINARY	8.2.2.2.7
0014h	RESERVATION INFORMATION OF LAST FAILED RESERVATION	variable	BINARY	8.2.2.2.8
all others	Reserved			

Editor's Note 1: Clauses 8.2.2.2.4 is included for context to help the review in CAP. They will not appear in SSC-5 AM1.

8.2.2.2.4 RESERVATION INFORMATION attribute

The DYNAMIC RUNTIME ATTRIBUTE VALUE field of the RESERVATION INFORMATION attribute is the list of I_T_L nexus identifying information for each I_T_L nexus that is a reservation holder. The DYNAMIC RUNTIME ATTRIBUTE VALUE field of the RESERVATION INFORMATION attribute is shown in table 2.

Table 2 – RESERVATION INFORMATION dynamic runtime attribute value format

Bit Byte	7	6	5	4	3	2	1	0
0	RESERVATION TYPE							
1	Reserved							
I_T_L nexus identifying information descriptor list								
2	I_T_L nexus identifying information descriptor [first] (see 8.2.2.2.1)							
...								
⋮								
	I_T_L nexus identifying information descriptor [last] (see 8.2.2.2.1)							
...								
n								

The RESERVATION TYPE field contains a reservation type (see table 3).

Table 3 – RESERVATION TYPE codes

Code	Reservation type
00h - 0Fh	Persistent reservation type (see SPC-5)
10h	SPC-2 reservation (see SPC-2)
11h - FFh	Reserved

Each I_T_L nexus identifying information descriptor is a copy of the I_T_L nexus identifying information for an I_T_L nexus when a reservation is created by that I_T_L nexus or when that I_T_L nexus joins the reservation as a reservation holder. The RESERVATION INFORMATION attribute is created and an I_T_L nexus identifying information descriptor is created and added to the list when an I_T_L nexus reserves the logical unit with a PERSISTENT RESERVE OUT command (see SPC-5) or a RESERVE command (see SPC-2). Other I_T_L nexus identifying information descriptors are created for each I_T_L nexus that is a reservation holder, if any (e.g., due to receipt of a PERSISTENT RESERVE OUT command or due to already registered I_T_L nexuses if an ALL REGISTRANTS type reservation is created). When an I_T_L nexus is no longer a reservation holder (e.g., a PERSISTENT RESERVE OUT command with a PREEMPT service action for that I_T_L nexus is processed), then the I_T_L nexus identifying information descriptor related to that I_T_L nexus shall be removed from the list. If the reservation is released the RESERVATION INFORMATION attribute shall be destroyed.

8.2.2.2.7 LAST FAILED RESERVATION attribute

The LAST FAILED RESERVATION attribute indicates the I_T_L nexus ~~that last failed a~~[through which a](#) command requesting a reservation [was most recently terminated](#) with RESERVATION CONFLICT status. The DYNAMIC RUNTIME ATTRIBUTE VALUE field of the LAST FAILED RESERVATION attribute contains the I_T_L nexus identifying

information (see 8.2.2.2.1) for ~~the~~[that](#) I_T_L nexus ~~that last received a RESERVATION CONFLICT status to~~[where that command is](#) one of the following commands:

- a) PERSISTENT RESERVE OUT;
- b) PERSISTENT RESERVE IN;
- c) RESERVE (see SPC-2); and
- d) RELEASE (see SPC-2).

8.2.2.2.8 [RESERVATION INFORMATION OF LAST FAILED RESERVATION attribute](#)

[The RESERVATION INFORMATION OF LAST FAILED RESERVATION attribute indicates the RESERVATION INFORMATION at the time the most recent LAST FAILED RESERVATION attribute \(see 8.2.2.2.7\) was created or updated. The DYNAMIC RUNTIME ATTRIBUTE VALUE field of the RESERVATION INFORMATION OF LAST FAILED RESERVATION attribute contains the RESERVATION INFORMATION \(see 8.2.2.2.4\) at the time the most recent LAST FAILED RESERVATION attribute was created or updated.](#)