Minutes
T11.3 FC-NVME-3 ad hoc work group regular meeting
08 Feb, 2022 – 10:30AM-12:00PM EST
Raleigh, NC, USA

The FC-NVME-3 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Raleigh, NC on 08 Feb, 2022, hosted by FCIA. Attendance was 13 people from 7 organizations and is tabulated at the end of this document.

Roger Hathorn (IBM) (rhathorn@us.ibm.com) took minutes. Please report any corrections by email at fc_protocol@standards.incits.org

1 Opening Remarks

Introductions
Chairperson Craig Carlson (Marvell) opened the regular meeting on Wednesday, 08 Feb, 2022 at 10:24 AM PDT and led a round of introductions and thanked the host (FCIA) for organizing this week’s events.

2 Meeting Policy

2.1 Attendance and Membership
The chair explained that attendance is recorded electronically at https://standards.incits.org/apps/org/workgroup/t11, and explained the procedure. Attendance at this meeting does not count toward attendance at the plenaries of T11 and its task groups (i.e., being here will not get you out or keep you out of membership jeopardy).

The chair stated that all persons present are considered members of this meeting and may vote on questions, limited to one vote per company present. He advised that although T11 does not limit participation in the activities of its work groups to representatives of T11 member organizations, it requires nonmembers to identify themselves as such. Nonmembers that expect they may participate in the activities of T11 regularly were encouraged to become members.

2.2 Code of Conduct

2.3 Call for Patents
The chair indicated that among the rules and policies under which this working group operates are the ANSI intellectual property policies as specified in pages 1-3 of http://www.incits.org/pat_slides.pdf. He displayed these pages without comment or explanation, and directed that questions about the policy should be referred to the questioner’s legal counsel or the ANSI General Counsel.

2.4 Antitrust
The chair indicated that among the rules and policies under which this working group operates are the INCITS Antitrust Guidelines. Any member of the meeting is responsible for objecting if he believes discussion in the meeting violates those guidelines. As examples, there should never be discussion of the following topics at any INCITS or INCITS subgroup meeting:

- Any company's prices or pricing policies;
- Specific R&D, sales and marketing plans;
- Any company's confidential product, product development or production strategies;
- Whether certain suppliers or customers will be served;
- Prices paid to input sources; or
- Complaints about individual firms or other actions that might tend to hinder a competitor in any market.

If such discussion is not immediately terminated, it is the chairperson’s responsibility to terminate the meeting. The INCITS Antitrust Guidelines are available at http://www.incits.org/inatrust.htm

3.0 Administrivia

3.1 Approval of Agenda
An agenda for the FC-NVME ad hoc work group regular meeting 08 Feb, 2022 was posted as T11/2022-00050-v00.

Motion: Dave Peterson (Broadcom) moved and Patty Driever (IBM) seconded to accept T11/2022-00050-v00 as the agenda for this regular meeting.
Approved by acclamation.

3.2 Approval of Minutes
The minutes for the previous meeting of Dec 8, 2021 were presented by the chair.
Motion: Dave Peterson (Broadcom) moved and Patty Driever (IBM) seconded to accept T11/2021-00355-v000 as the minutes for the prior meeting.

Approved by acclamation.

4.0 Review of Action Items

Action items carried forward from prior meetings:
None

New action items from this meeting:
AI-2022-1: Dave Peterson and Craig Carlson to review the use of NVMeoFC term within FC-NVMe-3.

Completed action items from prior meetings:
None

5. Old business
None

6. Scheduled business
None

7. Unscheduled business

7.1 ULP Registration
T11/2022-00028-v001 Harsha (Cisco)
Harsha presented text describing a ULP Name Object for NVMe that contains the NQN that are associated with the NVMe Port. The ULP Name type will be the FC-NVMe type code 0x28 when they are registered with the Nameserver. Feedback was provided and work on the description continues.

In addition, updates to Annex C were proposed to describe when ULP names would be registered.

7.2 Figures D.3 and D.4
T11/2022-00386-v000 Smart (Broadcom)
James presented figures D.3 and D.4 and described issues with the recovery actions as stated. Work will be done to correct the figures.
7.3 Non-zero relative offset SLER Peterson (Broadcom)
There was no document posted for this discussion on the topic of allowing retransmission of data from non-zero relative offsets in the Sequence Level Error Recovery (SLER) protocol.

David questioned whether we should include this capability that was provided in the FCP-5 incorporation of SLER. It is not understood whether this is required as there is no current use case for it. If added, it needs to be an optional use capability. David offered to do the work of what it would take to add it.

Motion: James Smart (Broadcom) moved and Craig Carlson (Marvell) seconded to NOT include non-zero relative offset capability for SLER in the FC-NVMe-3 standard. Motion passed by acclamation.

7.4 NVMe-3 Draft Standard Peterson (Broadcom)
T11/2021-320-v0 is revision 0 for FC-NVMe-3.
David will begin editorial updates for basic things such as references, versions, etc.

Craig Carlson (Marvell) proposed to consider the usage of the term NVMeoFC in the specification as being too close to terms used by NVM Express base on recent changes in terminology in that group to use the term NVMe/FC to represent NVMe over Fibre Channel.

AI-2022-1: Dave Peterson and Craig Carlson to review the use of NVMeoFC term within FC-NVMe-3.

8 Project Schedule
A project schedule was discussed, and dates remain TBD. It is anticipated to be approximately a two year project.

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Expected Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last technical input</td>
<td>TBD</td>
</tr>
<tr>
<td>T11 RFC</td>
<td>TBD</td>
</tr>
<tr>
<td>Forward to INCITS</td>
<td>TBD</td>
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</tbody>
</table>

9 Review of Action Items
See 4.0, Review of Action Items.

10 Meeting Schedule
The chair requested 2 hours at the T11 plenary week for FC-NVMe-3 in New Orleans, LA April, 2022.
11 Attendance Check and Adjournment

The following is the recorded attendance for this meeting.

<table>
<thead>
<tr>
<th>Company</th>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadcom Inc</td>
<td>Howard Johnson</td>
<td>Member</td>
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<tr>
<td>Broadcom Inc</td>
<td>David Peterson</td>
<td>Member</td>
</tr>
<tr>
<td>Broadcom Inc</td>
<td>James Smart</td>
<td>Member</td>
</tr>
<tr>
<td>Broadcom Inc</td>
<td>Anil Veerabhadrappa</td>
<td>Member</td>
</tr>
<tr>
<td>Cisco Systems Inc</td>
<td>Harsha Bharadwaj</td>
<td>Member</td>
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<tr>
<td>Cisco Systems Inc</td>
<td>Mike Blair</td>
<td>Member</td>
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<tr>
<td>Cisco Systems Inc</td>
<td>Edward Mazurek</td>
<td>Member</td>
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<tr>
<td>Hewlett Packard Enterprise</td>
<td>Barry Maskas</td>
<td>Member</td>
</tr>
<tr>
<td>IBM Corporation</td>
<td>Patty Driever</td>
<td>Secretary</td>
</tr>
<tr>
<td>IBM Corporation</td>
<td>Roger Hathorn</td>
<td>Vice Chair</td>
</tr>
<tr>
<td>Marvell Semiconductor Inc</td>
<td>Craig Carlson</td>
<td>Group Chair</td>
</tr>
<tr>
<td>NetApp Inc</td>
<td>Frederick Knight</td>
<td>Member</td>
</tr>
<tr>
<td>Viavi Solutions Inc</td>
<td>Jason Rusch</td>
<td>Member</td>
</tr>
</tbody>
</table>

David Peterson (Broadcom) moved and Jason Rousch (Viavi) seconded to adjourn. Approved by acclamation.

The regular meeting was adjourned at 12:00PM EST on 08 Feb, 2022.