

# **Minutes**

## **T11.3 FC-NVME-3 ad hoc work group regular meeting**

### **8 February 2023 – 9:00AM-10:00AM MDT**

#### **Tucson, AZ USA**

The FC-NVME-3 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Tucson, AZ, 8 February 2023, hosted by FCIA. Attendance was 12 people from 8 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](mailto:fc_protocol@standards.incits.org)

## **1 Opening Remarks**

### ***Introductions***

Chairperson Craig Carlson (Marvell) opened the regular meeting on Wednesday, 8 February 2023 at 9:01AM MDT 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***

The chair displayed the INCITS Code of Conduct policy:

[https://standards.incits.org/apps/group\\_public/download.php/124850/INCITS-CodeOfConduct.pdf](https://standards.incits.org/apps/group_public/download.php/124850/INCITS-CodeOfConduct.pdf).

## **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](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-3 ad hoc work group regular meeting 8 February 2023 was posted as T11/2022-00061-v000.

***Motion: Dave Peterson (Broadcom) moved and Mike Blair (Cisco) seconded to accept T11/2022-00061-v000 as the agenda for this regular meeting.***

Approved by acclamation.

### **3.2 Approval of Minutes**

The minutes for the previous meeting of Dec 7 2022 were presented by the chair.

***Motion: Dave Peterson (Broadcom) moved and Mike Blair (Cisco) seconded to accept T11/2022-00392-v000, as modified, as the minutes for the prior meeting.***

Approved by acclamation.

## **4.0 Review of Action Items**

### **Action items carried forward from prior meetings:**

**AI-2022-5:** Editor to incorporate T11-2022-00307-v001 in the next revision of the FC-NVMe-3 spec – Carry (incorporated, but new revision not yet posted).

**AI-2022-6:** David Peterson to post T11-2022-00381-v001 on ICDOFF setting - Complete

**AI-2022-6:** Editor to incorporate T11-2022-00381-v001 (ICDOFF) into the next revision – Carry (incorporated, but new revision not yet posted).

### **New action items from this meeting:**

### **Completed action items from prior meetings:**

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

**AI-2022-2:** Chair to forward updated project proposal T11/2022-00085-v001 to T11.3 for further processing – completed. Approved by INCITS.

**AI-2022-3:** Group to review usage of the platform object in terms of specific FC-4 content and determine if a definition for NVMe content is worthwhile. – Completed

**AI-2022-4:** James Smart to post T11-2022-00307-v001 on SLER Qualifier of Zero change. - Complete

## **5. Old business**

### **5.1 ULP Name Mapping for NVMe T11/2023-00034-v000 Harsha (Cisco)**

This is an updated proposal for capability to register Host and Subsystem NQNs as ULP names in the new Upper Layer Object Server.

An observation was made about ports that have both Initiator and Target capability that will need to be resolved: If an NVMe Port supports FC-4 features of initiator and target, it registers both Host NQNs and Subsystem NQNs. But the ULP Object name does not distinguish between the two (a query will return all the names). We will need a change to FC-GS-9 to have the ULP Name object include an indication of the FC-4 feature associated with the name. This will be investigated and a proposal prepared by those involved for April.

*Motion: Harsha Moved and Dave seconded to Incorporate T11/2023-00034-v000 into the next revision of FC-NVMe-3*

Approved by acclamation.

AI: Editor to incorporate.

AI: Look at FC-4 feature addition to ULP object.

## **5.2 FC-NVMe-3 Work Items (T11-2023-00030-v002)**

**Peterson (Broadcom)**

In October 2022, David presented a list of potential work items to handle in NVMe-3 based on comments received by various folks. Some of the items in this list have been addressed and work on some of the items has been assigned owners.

This document has been renumbered to a 2023 document. Some updates were done but not discussed at length. This is a running document “to do” list.

## **6. Scheduled business**

None

## **7. Unscheduled business**

### **7.3 FCNVMe-3 and RSCNs (T11-2023-00060-v000)**

**Fred Knight (Netapp)**

NVM Express has a keep alive function that is required unless the transport supports timely detection of connection loss. Fibre Channel uses RSCN for this. But there is no statement in FC-NVMe that it is required. This led a discussion on if we should make it a requirement. It is generally agreed that NMVe should require it - more next time.

### **7.1 ULP Names via Upper Level Object server Peterson (Broadcom) (T11-2023-00030-v002)**

This is David’s version of Harsha’s text, editorialized. A bit more than editorial so we will review it next time as a delta to Harsha’s, plus changes necessary to include FC-4 features association to the register ULP names.

## **8 Project Schedule**

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

<b>Milestone</b>	<b>Expected Date</b>
Last technical input	Dec 2023
T11 RFC	Apr 2024
Forward to INCITS	TBD

## 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 Tucson, AZ February, 2023.

## 11 Attendance Check and Adjournment

The following is the recorded attendance for this meeting.

Company 	Name	Role
Broadcom Inc	Howard Johnson	Member
Broadcom Inc	David Peterson	Member
Broadcom Inc	James Smart	Member
Cisco Systems Inc	Harsha Bharadwaj	Member
Cisco Systems Inc	Mike Blair	Member
Dell Inc	David Brown	Member
Hewlett Packard Enterprise	Barry Maskas	Member
IBM Corporation	Patty Driever	Member
IBM Corporation	Roger Hathorn	Member
Marvell Semiconductor Inc	Craig Carlson	Group Chair
NetApp Inc	Frederick Knight	Member
Viavi Solutions Inc	Jason Rusch	Member

***Howard Johnson (Broadcom) moved and Roger Hathorn (IBM) seconded to adjourn. Approved by acclamation.***

The regular meeting was adjourned at 10:00AM MDT on 8 February 2023.