

NVM Express / DMTF Work Register

Version 1.0

Date Initiated: 5/29/2024

This Work Register is created between the NVM Express and DMTF organizations to formally define the scope, benefits, and deliverables of the alliance. The register helps all organizations coordinate efforts to achieve the stated goals and objectives.

Alliance Organizations

[NVM Express](#) and [DMTF](#).

NVM Express®

NVM Express® is an open collection of standards and information to fully expose the benefits of non-volatile memory in all types of computing environments from mobile to data center. NVMe™ is designed from the ground up to deliver high bandwidth and low latency storage access for current and future NVMe technologies.

NVM Express has the following relevant standards:

- **NVMe-MI** - The NVMe® Management Interface (NVMe-MI™) specification defines a command set and architecture for out-of-band and in-band management of NVMe storage, making it possible to discover, monitor, configure, and update NVMe devices and NVMe enclosures. The NVMe-MI specification includes features to meet the growing management needs of the NVMe ecosystem.
- **NVMe Base specification** – The NVMe Express® Base specification defines how host software communicates with a non-volatile memory subsystem. This interface is optimized for all storage solutions, attached using a variety of transports. The NVMe library of specifications is divided into eight different specifications, including the NVMe Base specification, Command Set specifications, and Transport specifications.
- **NVMe-oF specification** - created to enable non-volatile memory express commands that transfer data between a host and SSD or system over a networked fabric.

DMTF

DMTF creates open manageability standards spanning diverse emerging and traditional IT infrastructures including cloud, virtualization, network, servers, and storage. Member companies and alliance partners worldwide collaborate on standards to improve the interoperable management of information technologies.

The goal of this work register is to publish a NVMe SPDM binding/mapping standard.

DMTF has the following relevant standards:

- **SPDM** - The Security Protocol and Data Model is a specification that defines messages, data objects, and sequences for performing secured message exchanges between devices over a variety of transport and physical media.

Alliance Benefits

This alliance provides the following benefits:

- Enables a holistic management experience.
- Enables scale out management for NVMe devices, including SSDs.
- Ensures that NVM Express and DMTF standards are coordinated and address NVMe management requirements, including schema definition and JSON/OData interoperability.
- Promotes NVM Express and DMTF standards to member companies.
- Fosters NVM Express participation at the DMTF Alliance Partner Technical Summit and in various working groups.

Activities

The goal of this work register is to publish a NVMe SPDM binding/mapping standard.

The following activities may occur during the duration of this work register:

- Investigation of the mapping of SPDM to NVMe-oF commands.
- Publication of an NVMe over Fabrics SPDM binding/mapping specification.

Limitations

The NVM Express and DMTF should preserve both interoperability and backward compatibility, except in major version releases.

Milestones / Dates

This section is to list specific milestones that will be accomplished by the alliance partnership.

Milestone/Deliverables	Timeframe
DMTF and NVM Express approves of Work Register	June 2024
DMTF and NVM Express to mutually supply logo and logo usage guidelines	June 2024
DMTF to publish work register	June 2024
DMTF to publish “NVMe Management Messages over MCTP Binding Specification 1.1.0” (DSP0235)	Q2 2024

DMTF to publish “SPDM to Storage Binding Specification v1.0.0” (DSP0286)	Q4 2024
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Access

DMTF and NVM Express may want to provide documentation and collateral to each other. This information can be exchanged publicly as appropriate.

Providing access to documents

- DMTF will provide access to information and specifications available by releasing and posting documents on the public DMTF website. The documents will be released as either “Work-in-Progress”, “Informational”, or “Standard”
- NVM Express: will provide access to information and specifications available by releasing and posting documents on the public NVM Express website.
- NVM Express upon board approval will provide the specifications listed in the NVMe Boot support table to DMTF under the DMTF policies.

Feedback and contributions which may involve intellectual property:

- NVM Express can submit feedback and contributions to DMTF specifications via the DMTF Technology Submission Portal (dmtf.org/standards/feedback), subject to the terms of the DMTF Intellectual Property Rights Agreement set forth on such portal.
- DMTF can submit feedback and contributions to NVM Express specifications and proof-of-concepts through the appropriate NVM Express member company representatives and NVM Express task group members.

The following specifications will be shared by DMTF

- DSP0274 SPDM standard and associated documentation, including work-in-progress releases for use by the NVMe-MI task group.

The following specifications will be shared by NVM Express:

- NVMe-MI Specification

Work Register Review Date

The next review date is expected to be on or before April 2025.

Points of Contact/Primary Alliance Agreement Contacts:

DMTF:

- DMTF VP of Alliances (vp-alliances@dmtf.org)
- DMTF Contacts for NVMe Alliance (nvme-alliance@dmtf.org)

NVM Express:

- NVMe Technical Working Group Chair (peter.onufryk@intel.com)

- NVMe Management Interface Task Group Chairs (austin.bolen@dell.com, john.geldman@kioxia.com)

Corresponding NVM Express Document

This document is the official NVM Express alliance record.

The document was reviewed and approved by the NVM Express Board of Directors: 8/19/2024.

Approval by the DMTF Board of Directors

Board Resolution **2024-06-10**, on 06/20/2024.