SNIA / DMTF / NVM Express Work Register
Version 1.0
Date Initiated: 2/9/2018

This Work Register is created between the SNIA, DMTF and NVM Express 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

The Storage Networking Industry Association (SNIA), Distributed Management Task Force (DMTF) and NVM Express.

Background

The SNIA is an organization which develops and promotes standards, technologies, and educational services to empower the management of information in the storage domain.

The SNIA has been working on the development of Storage related standards based upon DMTF technologies for many years. Much of this work has resulted in contributions back to the DMTF, and it has also resulted in the development of ANSI and ISO standards.

The 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.

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.

Alliance Organization Assets

The goal of this coordination is to coordinate standards for managing different aspects of SSD storage devices.

SNIA has a standard called Swordfish:

- The specification produced by the Scalable Storage Management Technical Work Group (SSM TWG) extends the Redfish Scalable Platforms Management API Specification to cover storage management.

DMTF has Redfish and MCTP standards:

- Designed to meet the expectations of end users for simple and secure management of modern scalable platform hardware, DMTF's Redfish® is an open industry standard specification and schema that specifies a RESTful interface and utilizes

JSON and OData to help customers integrate solutions within their existing tool chains.

- The Management Component Transport Protocol (MCTP) is a protocol and Platform Level Data Model (PLDM) is a low-level data model defined by the DMTF Platform Management Component Intercommunications (PMCI) working group. MCTP is designed to support communications between different intelligent hardware components that make up a platform management subsystem that is provides monitoring and control functions inside a managed system.

- The PLDM for Redfish Device Enablement (RDE) defines messages and data structures used for enabling PLDM devices to participate in Redfish-based management without needing to support either JavaScript Object Notation (JSON, used for operation data payloads) or the [Secure] Hypertext Transfer Protocol (HTTP/HTTPS, used to transport and configure operations).

NVM Express has a standard called NVMe-MI:

- NVM Express (NVMe) is a register-level interface that allows in-band host software to communicate with an NVM Subsystem. The NVMe Management Interface (NVMe-MI) allows a Management Controller to communicate out-of-band with an NVMe NVM Subsystem over one or more external interfaces.

Alliance Benefits

This alliance provides the following benefits:

- Enables a holistic management experience

- Enables scale out management for SSDs

- Ensures that SNIA, NVMe and DMTF standards are coordinated and address all storage management requirements, including schema definition and JSON/OData interoperability

- Promotes SNIA, NVMe and DMTF standards to member companies

- Fosters SNIA and NVMe participation at the DMTF Alliance Partner Technical Summit and in various working groups

Activities

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

DSP0218 will specify a binding from platform management to the Redfish and Swordfish mechanisms. The desire is to have standard data, firmware update and vendor specific OEM data all be transported in a common and interoperable manner as well as support for large data transfers.

DMTF will publish DSP0218 (and standard and open source tools), Redfish Schemas, PLDM spec and make available work in progress releases for use by other organizations.

DMTF may extend the Redfish schema for more complete coverage of NVMe Management functionality.

SNIA will publish Swordfish Schemas and make available work in progress releases for use by other organizations. SNIA may extend the Swordfish schema for more complete coverage of NVMe Management functionality.

NVMe may leverage the above work for use in a version of the NVMe-MI specification.

Limitations

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

Milestones / Dates

NVMe-MI MCTP Binding:

Milestone/Deliverables	Timeframe
Work in Progress release	1H2018
DSP0235 1.1 DMTF Standard	2H2018

Platform Level Data Model for Redfish Device Enablement:

Milestone/Deliverables	Timeframe
Work in Progress release	Feb 2018
DSP0218 1.0 DMTF Standard	1H2018

NVMe-MI Redfish support (working title):

Milestone/Deliverables	Timeframe
Introduce TPAR	Q1 2018
Ratified TP	Q3 2018

Access

NVMe-MI MCTP Binding:

The following specifications will be shared:

- DSP0218 Platform Level Data Model for Redfish Device Enablement
- DSP0235 NVMe-MI MCTP Binding

NVMe-MI Redfish support:

The following specifications will be shared:

- NVMe-MI Specification version 1.2

Work Register Review Date

The next review date is expected to be on or before January 2020.

Resources Identified / Points of Contact:

Primary Alliance Agreement Contacts:

SNIA:
- SNIA Technical Liaison to the DMTF (dmtfliaison@snia.org)
- SNIA Board Liaison to the DMTF (dmtfboardliaison@snia.org)
- SNIA Cross-Marketing Team Chair (cross_marketingteam-chair@snia.org)

DMTF:
- DMTF VP of Alliances, John Leung (vp-alliances@dmtf.org)
- DMTF SNIA Alliance Contacts (snia-alliance@dmtf.org)

NVM Express:
- Peter Onufryk, Chair NVMe-MI (peter.onufryk@microsemi.com)

Corresponding SNIA Document

This document is the official SNIA alliance record.

The document was reviewed and approved by the SNIA Board: Feb 5, 2018

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: Mar 19, 2018.

Approval by the DMTF Board of Directors

Approved by the DMTF Board of Directors; Board Resolution **2018-03-12**, on 3/19/2018.