



# Storage Networking Industry Association

## Technical Activities Update

June 2021



# SNIA Technical News: New ISO Standard

- Storage Management Initiative Specification (SMI-S) v1.8.0
  - SMI-S defines a method for the interoperable management of a heterogeneous Storage Area Network (SAN) and describes the information available to a WBEM Client from an SMI-S compliant CIM Server and an object-oriented, XML-based, messaging-based interface designed to support the specific requirements of managing devices in and through SANs.
- Now published as ISO/IEC 24775:2021
  - <https://www.iso.org/standard/81141.html>

# SNIA Technical News: New Public Review DRAFT

- Native NVMe-oF™ Drive Specification v1.1
  - This Native NVMe-oF™ Drive Specification describes the features and functions of a storage device class known as Native NVMe-oF Drives. It includes a taxonomy covering the scope of involved device capabilities.

# SNIA Technical News: New Public Review DRAFT

- **Swordfish Scalable Storage Management API Specification v1.2.2**
  - The Swordfish Scalable Storage Management API ("Swordfish") uses RESTful interface semantics and a standardized data model to provide a scalable, customer-centric interface for managing storage and related data services.

# SNIA Public Review Drafts

- Native NVMe-oF™ Drive Specification v1.1
- Swordfish Scalable Storage Management API Specification v1.2.2
- DRAFT CDMI Extensions and Profiles
  - Capabilities Selection Extension v2.0
  - CORS Extension v2.0
  - Data Affinity Extension v2.0
  - Jobs v2.0
  - Partial Upload Extension v2.0
- Computational Storage Architecture and Programming Model v0.5 rev 1

**Check them out! - Provide Feedback!**

***Participate in their development!***



# Storage Developer Podcast: Latest Episode



This week's highlighted Podcast:

## #147: Platform Performance Analysis for I/O-intensive Applications by Ilya Kurakin, Intel, and Perry Taylor, Intel.

High-performance storage applications running on Intel® Xeon® processors actively utilize I/O capabilities and I/O accelerating features of the platform by interfacing with NVMe devices. Such I/O-intensive applications may suffer from performance issues, which in a big picture can be categorized into three domains: I/O device bound – performance is limited by device capabilities core bound – performance is limited by algorithmic or microarchitectural code issues uncore bound – performance is limited by non-optimal interactions between devices and CPU. This talk focuses on the latter case. In Intel architectures, the term “core” covers execution units and private caches, and all the rest of the processor is referred as “uncore”, which includes on-die interconnect, shared cache, cross-socket links, integrated memory and I/O controllers, etc. Activities happening on the IO path in uncore cannot be monitored with traditional core-centric analyses, but there are pitfalls that require an uncore-centric view. Intel servers provide such a view by incorporating thousands of uncore performance monitoring events that can be collected in performance monitoring units (PMUs) associated with uncore IP blocks. However, using raw counters for performance analysis requires deep knowledge of hardware and appears incredibly challenging. In this talk, we will discuss platform-level activities induced by I/O traffic on Intel® Xeon® Scalable processors and summarize practices for best performance of storage applications. We will overview telemetry points staying on the IO traffic path and eventually present developing uncore-specific performance analysis methodology, that reveals platform-level inefficiencies, including poor utilization of Intel® Data Direct I/O Technology (Intel® DDIO).

# Storage Developer Podcast: Upcoming Episodes

- End To End Data Placement For Zoned Block Devices
- Enabling Ethernet Drives
- Tiered Storage Deployments with 24G SAS
- Redfish Ecosystem for Storage
- SkyhookDM: storage and management of tabular data in Ceph.
- Data Preservation & Retention 101
- Amazon FSx For Lustre Deep Dive and its importance in Machine Learning
- NVMe and NVMe-oF Configuration and Manageability with Swordfish and Redfish

**SNIA** PERSISTENT MEMORY  
+ SUMMIT 2021  
COMPUTATIONAL STORAGE

FROM DATACENTER TO EDGE : VIRTUAL EVENT  
APRIL 21-22, 2021



**Videos and presentation PDFs are now available.**  
*Check out the great content!*

<https://www.snia.org/pm-summit>



# SDC<sup>21</sup>

Storage Developer Conference  
September 28-29, 2021

**DEADLINE for  
Abstract  
Submission is  
June 15<sup>th</sup>!**



<https://www.storagedeveloper.org/speaker-info>

# Geek Out on Storage: NVMe over Fabrics



<http://www.snia.org/geekout>

# Important SNIA Links

- <http://www.snia.org/standards/>
- <http://www.snia.org/software/>
- <http://www.snia.org/publicreview/>
  - Draft SNIA Technical Work available for public review
- <http://www.snia.org/feedback/>
  - Public feedback submission form for draft SNIA Technical Work
- <http://www.snia.org/dictionary/>
  - Current SNIA Dictionary
- <http://www.snia.org/library>
  - Educational Library
- <http://www.sniacloud.org>
  - Latest news on SNIA Cloud activities
- <http://www.storagedeveloper.org>
  - SNIA Storage Developer Conference (SDC)
- <http://www.snia.org/podcasts/>
  - SDC Podcasts