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Storage Networking Industry Association

Technical Activities Update

August 2017

➤ NVM Programming Model v1.2

- ◆ The NVM Programming Model was developed to address the ongoing proliferation of new non-volatile memory (NVM) functionality and new NVM technologies. An extensible NVM Programming Model is necessary to enable an industry wide community of NVM producers and consumers to move forward together through a number of significant storage and memory system architecture changes.
- ◆ This specification defines recommended behavior between various user space and operating system (OS) kernel components supporting NVM. This specification does not describe a specific API. Instead, the intent is to enable common NVM behavior to be exposed by multiple operating system specific interfaces.

- **SNIA Emerald™ Power Efficiency Measurement Specification v3.0 rev 55 DRAFT**
 - ◆ This document describes a standardized method to assess the energy efficiency of commercial storage products in both active and idle states of operation. A taxonomy is defined that classifies storage products in terms of operational profiles and supported features. Test definition and execution rules for measuring the power efficiency of each taxonomy category are described; these include test sequence, test configuration, instrumentation, benchmark driver, IO profiles, measurement interval, and metric stability assessment. Qualitative heuristic tests are defined to verify the existence of several capacity optimization methods. Resulting power efficiency metrics are defined as ratios of idle capacity or active operations during a selected stable measurement interval to the average measured power.

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

- **Storage Management Initiative Specification (SMI-S) v1.8.0r1**
 - ◆ 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.

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

➤ **Swordfish Scalable Storage Management API v1.0.4**

- ◆ 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.

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- SNIA Emerald™ Power Efficiency Measurement Specification v3.0 rev 55
- Storage Management Initiative Specification (SMI-S) v1.8.0r1
- Swordfish Scalable Storage Management API v1.0.4
- Simple IP Based Drive Mockup-4
- IP Based Drive Array Mockup-2
- Persistent Memory Security DRAFT
- CDMI Test Specification v1.0a DRAFT
- CDMI Reference Implementation v1.0e DRAFT
- DRAFT CDMI Extensions and Profiles

Check them out! - Provide Feedback!
Participate in their development!

Storage Developer Podcast: Latest Episode



This week's highlighted Podcast:

#54: Bridging the Gap Between NVMe SSD Performance and Scale Out Software
by Anjaneya Chagam, Principal Engineer, Intel

NVMe SSDs are becoming increasingly popular choice in scale out storage for latency sensitive workloads like databases, real time analytics, video streaming. NVMe SSDs provide significant performance throughput and lower latency compared to SATA, SAS SSDs. It is not unrealistic to expect these devices providing close to million random IOs per second. However scale out software stacks have significant amount of software overhead limiting the immense potential of NVMe SSDs. In this session, we present all flash scale out cluster performance, analysis on data path I/O overhead and programming techniques to systemically address software performance barriers.

Storage Developer Podcast: Upcoming Episodes



- Low Latency Remote Storage: A Full-stack View
- Samba and NFS Integration
- SMB3 in Samba – Multi-Channel and Beyond
- NVMe over Fabrics – High Performance Flash moves to Ethernet

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

Storage Developer Conference



SNIA's [Storage Developer Conference \(SDC\)](#) is the destination for technical discussions and education on the latest storage technologies and standards.
September 11-14, 2017



Created BY developers FOR developers!

Early Bird Registration ends Friday, August 11th, so register today!

<http://www.storagedeveloper.org>

Important SNIA Links

- <http://www.snia.org/standards/>
- <http://www.snia.org/software/>
- <http://www.snia.org/publicreview/>
- <http://www.snia.org/feedback/>
 - ◆ Public feedback submission form for draft SNIA Technical Work
- <http://www.snia.org/dictionary/>
 - ◆ Current SNIA Dictionary
- <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