



Storage Networking Industry Association

Technical Activities Update

December 2021



SNIA Technical News: New Zoned Storage TWG

- In a Zoned Storage system, the host and device cooperate regarding data placement on the device. For SSDs, this enables lower overprovisioning, more predictable performance, and potential device cost reduction. For HDDs, Zoned Storage enables the use of SMR drives, which deliver the highest capacities, as well as performance benefits.
- Command interfaces for Zoned Storage have been standardized (ZAC/ZBC for SMR HDDs and ZNS for NVMe[®] SSDs), however, the specifications leave flexibility in how host software interacts with the Zoned Storage IO stack and Zoned Storage devices, resulting in different application best practices depending on the use case. The Zoned Storage ecosystem will benefit from the description of common use cases, and a nomenclature around which corresponding host/device models can be described.
- **The Zoned Storage TWG will facilitate a common industry understanding of Zoned Storage use cases and create a host/device architecture and programming model; providing a framework for Zoned Storage design and enabling the development of a robust Zoned Storage solutions ecosystem.**

SNIA Technical News: New SNIA Standard

- **Swordfish Scalable Storage Management API Specification v1.2.3**
 - The Swordfish Scalable Storage Management API defines a RESTful interface and a standardized data model to provide a scalable, customer-centric interface for managing storage and related data services.

SNIA Public Review Drafts

- Smart Data Accelerator Interface (“SDXI”) Specification v0.9.0 rev 1
- Blockchain Interoperability Specification v0.5 rev 0.1
- Computational Storage Architecture and Programming Model v0.8 rev 0
- Computational Storage API v0.5 rev 0
- DRAFT CDMI Extensions and Profiles
 - Capabilities Selection Extension v2.0
 - CORS Extension v2.0
 - Data Affinity Extension v2.0
 - Extended Child Listing v2.0
 - Jobs v2.0
 - Partial Upload Extension v2.0

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

Storage Developer Podcast: Latest Episode



This week's highlighted Podcast:

#157: Compute Express Link 2.0: A High-Performance Interconnect for Memory Pooling by Andy Rudoff, Persistent Memory SW Architect, Intel .

Data center architectures continue to evolve rapidly to support the ever-growing demands of emerging workloads such as artificial intelligence, machine learning and deep learning. Compute Express Link™ (CXL™) is an open industry-standard interconnect offering coherency and memory semantics using high-bandwidth, low-latency connectivity between the host processor and devices such as accelerators, memory buffers, and smart I/O devices. CXL technology is designed to address the growing needs of high-performance computational workloads by supporting heterogeneous processing and memory systems for applications in artificial intelligence, machine learning, communication systems, and high-performance computing (HPC). These applications deploy a diverse mix of scalar, vector, matrix, and spatial architectures through CPU, GPU, FPGA, smart NICs, and other accelerators. During this session, attendees will learn about the next generation of CXL technology. The CXL 2.0 specification, announced in 2020, adds support for switching for fan-out to connect to more devices; memory pooling for increased memory utilization efficiency and providing memory capacity on demand; and support for persistent memory. This presentation will explore the memory pooling features of CXL 2.0 and how CXL technology will meet the performance and latency demands of emerging workloads for data-hungry applications like AI and ML.

Storage Developer Podcast: Upcoming Episodes

- NVMe 2.0 Specifications: The Next Generation of NVMe Technology
- Amazon Aurora Storage – Purpose Built Storage for Databases
- Ransomware!!! – an Analysis of Practical Steps for Mitigation and Recovery
- SPDK Schedulers – Saving CPU Cores in a Polled Mode Storage Application
- Analysis of Distributed Storage on Blockchain
- Automating the Discovery of NVMe-oF Subsystems over an IP Network
- Enabling Asynchronous I/O Passthru in NVMe-Native Applications

Conference sessions now available on demand!

STORAGE DEVELOPER CONFERENCE



BY Developers FOR Developers

September 28-29, 2021, Virtual Event

<https://www.storagedeveloper.org>

Upcoming SNIA LIVE Webcast

■ Why Use Multiple Clouds?

- **Tuesday, January 11, 2022 – 10:00 am PT/ 1:00 pm ET (or after on-demand)**
 - As storing data in the cloud has become ubiquitous and mature, many organizations have adopted a multi-cloud strategy. Eliminating dependence on a single cloud platform is quite a compelling case.
 - But multi-cloud environments are not without challenges. Taking advantage of the benefits without increasing complexity requires a strategy that ensures applications are not tightly coupled to cloud-specific technologies. Supporting a storage abstraction layer that insulates the application from the underlying cloud provider's interfaces allows an application to be easily used with multiple clouds.
 - Join to hear SNIA experts cover:
 - Risk mitigation of multiple clouds
 - Transparent movement of data from cloud to cloud
 - Political, regulatory and compliance considerations
 - Multi-cloud as part of a business continuity strategy
 - Exit cost reduction
 - Running work in parallel across clouds

Geek Out on File vs. Block vs. Object Storage



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

SNIA Annual Members Symposium Update (virtual)

- Learn what SNIA has planned for 2022
 - All SNIA Committees, Forums, Initiatives, and Technical Work Groups will be presenting an update on their activities and plans for 2022
- Save the date: January 25, 2022; 9 am – 1 pm PST; via Zoom
- Open to the public at no charge

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.snia.org/webcasts>
 - SNIA Webcasts
- <http://www.storagedeveloper.org>
 - SNIA Storage Developer Conference (SDC)
- <http://www.snia.org/podcasts/>
 - SDC Podcasts