



Storage Networking Industry Association

Technical Activities Update

April 2023

SNIA Technical News: Recent Public Review Drafts

- Persistent Memory (PM) Storage Performance Test Specification (PTS) v0.9 rev 00.09.10.5
 - This Working Draft describes best practices for Persistent Memory Storage Performance Test and sets forth a performance test methodology, PM storage platform set up, test settings, synthetic benchmark workloads, real-world application workloads and test results reporting format. It is intended to provide accurate, repeatable and reliable comparison of Block IO and In-Memory byte addressable test results used in traditional and PM aware applications under various PM Storage configurations.

SNIA Public Review Drafts

- Persistent Memory (PM) Storage Performance Test Specification (PTS) v0.9 rev 00.09.10.5
- Swordfish NVMe SMART Metrics for Storage Controllers
- Zoned Storage Models v0.9 rev 0
- Computational Storage API v0.8 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:

#186: The Looming need for Molecular Storage by Aaron Ogus,
Distinguished Engineer, Microsoft

Data bytes stored continues to grow at about 40% annually. This trend now exceeds the device capacity growth rate of all existing commercial scale media types including HDD, Flash, Tape and Optical, and the gap between growth rates is about 20%. That implies that the datacenter footprint for storage will be approximately doubling every 3.5 years just to keep up. However, the roadmaps for ongoing density improvement makes the situation much more stark. Past 2030, growth in device capacities may slow substantially leading to a need for 40x or more datacenter space and power by 2040 to keep up with data growth. Although the methods we have used to store data with magnetized materials or corralling electrons are true technological wonders, it is becoming apparent that if we don't want to impinge data growth we may need a substantial paradigm shift in storage technology. Molecular storage is the panacea of storage density and DNA is the leading contender for the championship of storage density, but we will also need to invest in technologies that allow for high speed molecular storage. This is going to be a heavy lift, but if we want to intercept the coming storage capacity crunch we need to start work now.

Storage Developer Podcast: Upcoming Episodes

- More Than Just a Bucket of Bits: Cloud Object Storage turns Sweet Sixteen
- Open Industry Storage Management with SNIA Swordfish™
- Behind the scenes for Azure Block Storage unique capabilities
- Kinetic Campaign: Speeding Up Scientific Data Analytics with Computational Storage Drives and Multi-Level Erasure Coding
- A Persistent CXL Memory Module with DRAM Performance
- DNA data storage: Coding and decoding, an experience from a Brazilian research center

2023 SNIA Preview Videos On-Demand

Check out the 2023 SNIA Preview. It is an inside look at the innovative technologies and exciting activities SNIA has planned for this year, *where SNIA leaders highlight the significant accomplishments and future plans of its Technical Work Groups, Forums and Initiatives, Committees, and Technology Affiliates.*

Upcoming SNIA LIVE Webcast

- **Top 12 Trends in Data and Cloud Storage**

- **Thursday, April 13, 2023; 11:00 am PT / 2:00 pm ET**

- The SODA Foundation, in partnership with Linux Foundation Research, has recently published its Data and Storage Trends 2022 Report, “Data and Storage Strategies in the Era of the Data-Driven Enterprise.” The findings from this global study provide a comprehensive look at the intersection of cloud computing, data and storage management, the configuration of environments that end-user organizations are gravitating to, and priorities of selected capabilities over the next several years.
- SNIA is pleased to host SODA members who led this important research for a live discussion and in-depth look at key trends driving data and storage.

Upcoming SNIA LIVE Webcast

- **Sustainability in the Data Center Ecosystem**

- **Tuesday, April 25, 2023; 10:00 am PT / 1:00 pm ET**

- Data centers continue to expand their environmental footprints, currently consuming 2% of the developed world's electricity. Experts predict this number could rise to 13% by 2030. This webinar will cover energy-efficiency in data centers and ways to rein in costs and improve sustainability. This includes delivering more power efficiency per capacity, revolutionizing cooling to reduce heat, increasing system processing to enhance performance, and infrastructure consolidation to reduce the physical and carbon footprint. Hear our panel of experts discuss important topics.

Upcoming SNIA LIVE Webcast

- **Casting the Net: Scaling Management of Storage and Fabrics**
 - **Wednesday, May 17, 2023; 10:00 am PT / 1:00 pm ET**
 - Composable disaggregated infrastructures provide a promising solution to addressing the provisioning and computational efficiency limitations, as well as hardware and operating costs, of integrated, siloed, systems. But how do we solve these problems in an open, standards-based way?
 - DMTF, SNIA, the OFA, and the CXL Consortium are working together to provide elements of the overall solution, with Redfish and Swordfish manageability providing the standards-based interface. OFA is developing an Open Fabric Management Framework (OFMF) designed for configuring fabric interconnects and managing composable disaggregated resources in dynamic HPC infrastructures using client-friendly abstractions.
 - In this webinar, attendees will understand how use cases for scaling management of storage and fabrics and beyond are addressed in these architectures, and the applicability to additional technologies.

Upcoming SNIA LIVE Webcast

■ Why Web 3.0 is Important to Enterprise Storage

■ Tuesday, June 1, 2023; 11:00 am PT / 2:00 pm ET

- Explore the exciting and rapidly evolving world of decentralized storage and how it is bridging the gap between Web 2.0 and Web 3.0
- In this webinar, we will provide an overview of the importance of enterprise decentralized storage and why it is more relevant now than ever before. We will delve into the benefits and demand of decentralized storage and discuss the evolution of on-premises to cloud to decentralized storage (cloud 2.0). We will explore decentralized storage use cases, including its role in data privacy and security and the potential for decentralized applications (dApps) and blockchain technology.

Recent SNIA Webcasts available on Demand

- Cyberstorage and XDR: Threat Detection through a Storage Lens
- Training Deep Learning Models in the Cloud
- Persistent Memory Trends
- An Introduction to the OPI (Open Programmable Infrastructure) Project
- Journey to the Center of Massive Data: Digital Twins
- What's in a Name? Memory Semantics and Data Movement with CXL™ and SDXI
- Kubernetes Trials & Tribulations: Cloud, Data Center, Edge
- EDSFF Taking Center Stage in the Data Center You've Been Framed! xPU, GPU & Computational Storage Programming Frameworks



SNIA STORAGE BASICS



Geek Out on Data Privacy & Protection

Understanding Ransomware

Data protection and data privacy have become Board level discussions as failing to secure sensitive information puts businesses at significant risk of being exploited by cybercriminals, and can lead to organizations facing enormous legal penalties. Geek Out here to learn best practices in data protection & data privacy, the storage security landscape, ransomware mitigation, and more.

Checkout past Geek Outs:

- Great Storage Debates
- NVMe over Fabrics
- Computational Storage
- SNIA Swordfish
- Storage Basics

SDC 2023 Call for Presentations is Open

STORAGE DEVELOPER CONFERENCE



BY Developers FOR Developers

Call for Presentations Now Open!

Submit by June 16



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