



Storage Networking Industry Association

Technical Activities Update

August 2022



SNIA Technical News: New Public Review Draft

- **TLS Specification for Storage Systems v2.1**

- This document specifies the requirements and guidance for use of the Transport Layer Security (TLS) protocol in conjunction with data storage technologies. The requirements are intended to facilitate secure interoperability of storage clients and servers as well as non-storage technologies that may have similar interoperability needs. This document was developed with the expectation that future versions of SMI-S and CDMI could leverage these requirements to ensure consistency between these standards as well as to more rapidly adjust the security functionality in these standards.

SNIA Technical News: New Public Review Draft

- Computational Storage API v0.8 rev 0
 - This SNIA Draft Standard defines the interface between an application and a Computational Storage device (CSx). For each CSx there will need to be a library that performs the mapping from the APIs in this specification and the CSx on the specific interface for that CSx.

SNIA Technical News: New Public Review Draft

- Computational Storage Architecture and Programming Model v0.9
 - This SNIA document defines recommended behavior for hardware and software that supports Computational Storage.

SNIA Public Review Drafts

- TLS Specification for Storage Systems v2.1
- Computational Storage API v0.8 rev 0
- Computational Storage Architecture and Programming Model v0.9
- Smart Data Accelerator Interface (“SDXI”) Specification v0.9.0 rev 1
- Blockchain Interoperability Specification v0.5 rev 0.1
- 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:

#173: Facts, Figures and Insights from 250,000 Hard Drives by Andrew Klein, Principal Storage Cloud Evangelist, Backblaze.

For the last eight years Backblaze has collected daily operational data from the hard drives in our data centers. This includes daily SMART statistics from over 250,000 hard drives, and SSDs, totaling nearly two exabytes of storage, and totaling over 200 million data points. We'll use this data to examine the following: - the lifetime failure statistics for all the hard drives we have ever used. - how has temperature effects the failure rate of hard drives. - a comparison the failure rates of helium filled hard drives versus air-filled hard drives. - the SMART stats we use to indicate whether a Hard Drive may fail and if you can use SMART stats to predict hard drive failure. - how SSD failure rates compare to HDD failure rates. The data we use is available for anyone to download and use for their own experimentation and education.

Learning Objectives 1) How have the hard drives we have under management performed over time; 2) How you can use SMART stats at scale to determine patterns in hard drive behavior; 3) A look at real word data comparing the failure rates of HDD and SSD devices; 4) How anyone can download and use the data set we have collected.

Storage Developer Podcast: Upcoming Episodes

- Fine Grain Encryption Control for Enterprise Applications
- Sanitization – Forensic-Proofing Your Data Deletion
- Computational Storage Update from the SNIA Working Group
- SNIA SDXI Roundtable: Towards Standardizing a Memory to Memory Data Movement and Acceleration Interface
- CSI Driver Design: Bringing a Parallel File System to Containerized Workloads
- Computational Storage Architecture Simplification and Evolution
- Emerging Computer Architectures Powered by Emerging Memories

Next SNIA LIVE Webcast

■ xPU Deployment and Solutions Deep Dive

- **Wednesday, August 24, 2022. 10:00 am PT / 1:00 pm ET**
 - Our 1st and 2nd webcasts in this xPU series explained what xPUs are, how they work, and what they can do. In this 3rd webcast, we will dive deeper into next steps for xPU deployment and solutions, discussing:
 - **When to deploy**
 - Pros and cons of dedicated accelerator chips versus running everything on the CPU
 - xPU use cases across hybrid, multi-cloud and edge environments
 - Cost and power considerations
 - **Where to deploy**
 - Deployment operating models: Edge, Core Data Center, CoLo, Public Cloud
 - System location: In the server, with the storage, on the network, or in all those locations?
 - **How to deploy**
 - Mapping workloads to hyperconverged and disaggregated infrastructure
 - Integrating xPUs into workload flows
 - Applying offload and acceleration elements within an optimized solution

Recent SNIA Webcasts available on Demand

- Kubernetes is Everywhere – What About Cloud Native Storage?
- Storage Life on the Edge: Accelerated Performance Strategies
- xPU Accelerator Offload Functions
- Is the Data Really Gone? A Primer on the Sanitization of Storage Devices
- SmartNICs to xPUs – Why is the Use of Accelerators Accelerating?
- Storage Life on the Edge: Security Challenges
- Data Protection considerations for Cloud-native containerized applications



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

Upcoming SNIA Events



STORAGE DEVELOPER CONFERENCE

BY Developers FOR Developers

September 12-15, 2022
Fremont Marriott Silicon Valley

The logo for the Storage Developer Conference 2022 (SDC 22) features a stylized stack of three layers: a dark purple top layer, a light green middle layer, and a grey bottom layer. To the right of this graphic are the letters 'S', 'D', and 'C' in a large, bold, dark purple font, with the number '22' inside the 'C'. The background of the entire graphic is a light blue and white geometric pattern of overlapping polygons and lines.

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