

2019 ANNUAL MEMBERS MEETING

October 24, 2019
9AM Mountain / 8AM Pacific – Teleconference
(See Next Page for Dial-in and Zoom Instructions)

Conference Call Dial-in and Zoom Info



Teleconference/Zoom coordinates:

- Go to Zoom Meeting: https://zoom.us/j/738204061
- Dial by your location
- +1 720 707 2699 US (Denver)
- +1 646 558 8656 US (New York)
- Meeting ID: 738 204 061
- Find your local number: https://zoom.us/u/aLy5ydoc3

2019 Annual Members Meeting Agenda



- Greetings and Roll Call (for Quorum) Michael Oros, Executive Director
- FY2018 Annual Report published
 - Motion to Approve 2018 Meeting Minutes Jim Williams, SNIA Secretary
 - Fiscal Report (2018 Annual Report) Rob Peglar, SNIA Treasurer
- ♦ FY2019: SNIA update and achievements to date David Dale, SNIA Chairman
- FY2020: What's ahead for SNIA David Dale, SNIA Chairman
- Announcement of 2019 Board and Technical Council Election Results Michael Oros, Executive Director
- Questions and Answers Members and SNIA Board Members
- Adjourn

Roll Call and Approval of 2018 Minutes



- Roll Call of Voting Member Companies
- Primary Representatives of Voting Member Companies, please identify yourselves during Roll Call
- If you work for a Voting Member Company and do not hear your primary representative, please identify yourself during roll call – Proxy representation is Accepted
- Motion for a Vote to approve 2018 Meeting Minutes will take place upon quorum being met.

Roll Call: Roster of Voting Companies And Primary / Voting Representatives



- Rob Peglar, Advanced Computation and Storage
- Leah Schoeb, AMD
- Neil Werdmuller, ARM
- Richelle Ahlvers, Broadcom
- J Metz, Cisco
- Cuong Le, Data Dynamics
- Bill Elliott, Dell Computer Corp.
- Leland Bettis, Formulus Black
- Paul Von-Stamwitz, Fujitsu America Inc.
- Chris Lionetti, HPE
- ♦ Eric Hibbard, Hitachi Data Systems
- Yolanda Fang, Huawei Technologies
- Michelle Tidwell, IBM
- Henry Feng, Inspur

- Jim Pappas, Intel Corporation
- Mark Carlson, Kioxia Corporation
- Ted Vojnovich, Lenovo
- Wang Zhenhao, MacroSAN
- Paul Suhler, Micron
- ♦ Tom Talpey, Microsoft Corporation
- David Dale, NetApp
- Scott Shadley, NGD Systems
- Jim Williams, Oracle Corporation
- Peter Murray, Pure Storage
- Bill Martin, Samsung
- Tau Leng, Supermicro
- Artem Ikoev, YADRO

SNIA FY2018 Annual Report



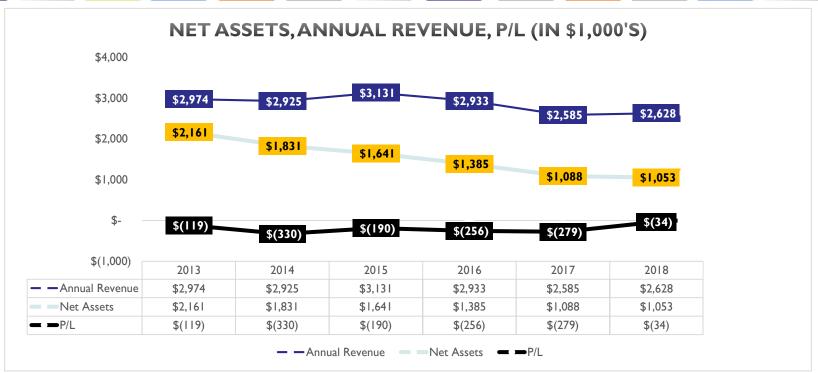
Motion to Approve 2018 Meeting Minutes

Full FY2018 annual report posted on SNIA website:

https://www.snia.org/sites/default/files/corp-docs/AnnualReport18_final.pdf

SNIA Fiscal Report: 2018





Note: P/L numbers include allowances for bad debt, depreciation and vacation accrual. For details, refer to our 2018 annual report at: http://snia.org/about/corporate_info/documents



FY2019

SNIA Vision and Mission



Vision Statement

Be the globally recognized and trusted authority for storage leadership, standards, and technology expertise.

Mission Statement

➤ Lead the storage industry worldwide in developing and promoting vendor-neutral architectures, standards and educational services that facilitate the efficient management, movement and security of information.

SNIA Focus for 2019



- Broaden technical agenda
 - Evolve existing programs and technical work (e.g., Computational Storage, PM Hackathons)
 - Engage our existing Strategic Alliances and grow them; establish new ones
- Stable membership focus on retention and member satisfaction with SNIA programs
- Streamline the organization and improve efficiency
 - Put our new and existing operations tools to work; explore new tools for the future
- Build on marketing strengths
- Enhance partnerships with other SDOs and open source community
 - Execute on collaborative work registers and foster new areas of collaboration
 - Strong focus on next-generation technologies and infrastructures
- Execute online education objectives
 - Strong webcast agenda; more structured engagement with press, analyst and blogger community
 - Develop modern education library and organize our content/Dictionary in easily searchable manner
 - Monitor and evaluate SNIA Storage Certification
- Balanced budget

2019 Achievements - Technical Publications SNIA

SNIA Technical Positions

- Swordfish Scalable Storage Management API v1.0.7a
- Key Value Storage API Specification v1.0
- Linear Tape File System (LTFS) v2.5
- Swordfish Scalable Storage Management API v1.1.0
 - > Membership Vote active, to be published November 2019

SNIA Technical White Papers

- NVM PM Remote Access for High Availability
- SNIA Emerald™ V4 Taxonomy

2019 Achievements – SNIA ISO Standards



- Self-contained Information Retention Format (SIRF) v1.0
 - Approved and published as ISO/IEC 23681:2019

- SNIA Emerald™ Power Efficiency Measurement Specification v3.0.3
 - Approved as ISO/IEC 24091:2019
 - ISO publication in process

2019 Achievements – Public Review Drafts SNIA

- NVM PM Remote Access for HA v1.06
- **→** LTFS v2.5
- Swordfish Core Profiles v0.9
- → PM PTS Preamble v1.0 rev 0.02
- NVM PM Remote Access for High Availability v1.91
- Swordfish EnergyStar for Storage Profile Bundle v0.9
- Swordfish Scalable Storage Management API v1.1.0
- ♦ Native NVMe-oF Drive Specification v1.0k

2019 Achievements – SFF TA TWG



- ♦ SFF-8024 v4.6
 - SFF Module Management Reference Code Tables
- SFF-8636 v2.10a
 - Management Interface for 4-lane Modules and Cables
- SFF-9402 v1.1
 - Multi-Protocol Internal Cables for SAS and/or PCIe
- ♦ SFF-TA-1002 v1.2
 - Protocol Agnostic Multi-Lane High Speed Connector
- ♦ SFF-TA-1005 v1.2a
 - Universal Backplane Management
- SFF-TA-1006 v1.3a
 - Enterprise and Datacenter 1U Short SSD Form Factor (E1.S)
- SFF-TA-1007 v1.1
 - Enterprise and Datacenter 1U Long SSD Form Factor (E1.L)

- SFF-TA-1013 v1.0
 - Fabric Device Mechanical Specification
- ♦ SFF-TA-1014 v2.0
 - Fabric Attached Device Connector
- ♦ SFF-TA-1015 v1.0
 - Fabric Device Pinout Specification
- REF-TA-1011 v1.1
 - Cross Reference to Select SFF Connectors and Modules

2019 Achievements – Membership



- Membership level growing:
 - 87 core members (+14 new members YTD)
 - 68 SFF members (+11 new members YTD)
 - 31 Educational Institution members
 - 26 non-core Regional Affiliate Members
- Voting membership increased to 27 (+1 net new members YTD)
- Startup Membership category continues to grow: now 17 members
 - \$1,000/year
 - In business for less than 4 years
 - Can join SNIA for up to 4 consecutive years in the membership class
 - Annual revenue <\$10M/year
 - Contact membership services to join or with questions: membership@snia.org
 https://www.snia.org/member com/join/join now

2019 Marketing Objectives



- Promote SNIA's storage leadership, standards work, and technology expertise
 - Key activities to support this goal:
 - Raise SNIA's industry leadership profile and activities
 - Generate blogs, newsletters, contributed articles, and media interviews targeted at end user/IT professionals and storage vendors
 - Engage in social media for real-time mindshare and relevance, inspiring conversations, and demonstrating thought leadership
 - > Promote SNIA activities with alliance partners

2019 Marketing Objectives (continued)



- Support SNIA membership recruitment, retention, and engagement initiatives
 - Key activities to support this goal
 - > Promote SNIA's technical work and impact on key industry trends
 - Improve the overall SNIA member experience
 - Develop compelling outreach materials
- Promote SNIA Education and educational programs
 - Key activities to support this goal
 - Deliver vendor-neutral webcasts
 - Support and promote the new SNIA Education Committee initiatives
 - Support and promote SNIA Certifications

2019 Marketing Accomplishments



- Raised SNIA industry leadership profile and activities
 - Developed and promoted the new Networking Storage infographic
 - SNIA article/content requests from EE Times, FedTech Magazine, Network World, TechTarget, TechRepublic, The Register, Enterprise Times and Computer Weekly
 - Launched SNIA Live Chat feature
- Promoted SNIA's technical work and impact on key industry trends
 - SNIA Technical content well received by the community
 - Key Value Storage API specification and the Computational Storage work is generating significant interest
- Delivered 26 vendor-neutral webcasts
 - BrightTalk subscribers surpass 40,000
 - All of the 2017-2019 webcasts are now available on SNIAVideo YouTube Channel
- Generated blogs, newsletters, contributed articles, and media interviews targeted at end user/IT professionals and storage vendors
 - SNIA Matters newsletter delivered to more than 40,500 subscribers
 - Media engagement is gaining traction with over 18 media mentions and 10 briefings secured
 - Published 59 SNIA on Storage Blogs, which have over 36,000 views
 - SNIA mentions in external blog posts; helping to increase awareness

2019 PR Accomplishments



4 Press Releases/Member Release

- Pavilion Data SNIA and NVM Express
- UNH Interoperability
- Object Drive Technical Work
- FMS Award

6 SNIA Media Alerts distributed

- Sent to the SNIA media list
- Generated communications and/or briefing requests
- Focused on our monthly presence at industry events

10 Press Briefings secured

- Carol Sliwa, TechTarget
- Network World
- Evan Kobletz, TechRepublic
- Jacquelyn Bengfort, FedTech
- Dave Bursky, Chipnastics
- Ken Clipperton, DCIG
- Heise, Lutz Labs
- James Shao, IHI Markit's
- Tim Stammers, 451 Research
- IDC

18 SNIA Mentions

- Tom's Hardware
- 2 Data Storage Solutions Review
- DataCenter Knowledge
- IT Pro Portal
- TechTarget
- FedTech
- Enterprise Times
- Blocks & Files
- Quebec Daily Examiner

- NetworkWorld
 - GridGain
- ZDNet
- TechRepublic
- @8arkz
- Forbes
- Storage Insider
- Storage Short Takes

3 SNIA Authored Articles

- Cloud CapEx and OpEX
- Data Liberation in the Cloud
- T Stands for Technologies in SNIA CSTI

2019 Achievements – EventsRaise SNIA industry leadership profile and activities



- Technical Symposiums (Jan, April, July, Oct)
- Persistent Memory Summit (Jan)
- PM Hackathons (Jan, March, July, August, September)
- Delivered 3 Storage Developer Conferences
 - SDC EMEA (February: Tel Aviv, >100 attendees)
 - SDC India (May: Bangalore, ~200 attendees)
 - SDC North America (September: Santa Clara, >400 attendees)
- DMTF/SNIA Alliance Partners Technical Symposium (July)
- Flash Memory Summit (Aug) received Best of Show Award (Key Value API)
 - PM & Computational Storage Tracks, Keynote, Exhibit/Demos, PM Tutorial/Hackathon, SSSI Summit
- SNIA Gold deck and influential presentations at other key industry events
- Media and PR coverage at industry events



2019 Achievements – Education



- Education Library launched! https://www.snia.org/educational-library
 - Over a decade of SNIA educational content (pdf, audio, video) at your fingertips
 - Searchable by key term, content type, event, year, author, presenter, company
- Over 850 Educational videos are available on SNIA's YouTube Channel www.youtube.com/sniavideo
 - The number of Subscribers to our YouTube Channel continues to grow rapidly
- ◆ SNIA Dictionary with >2,000 terms is now dynamically searchable online
 - https://www.snia.org/education/online-dictionary
- "What is" educational pages published https://www.snia.org/education/what-is
 - SAN, NAS, Computational Storage, Persistent Memory, SNIA Swordfish, SNIA Emerald, FC, LTFS, NVMe with more key technologies/concepts being developed

2019 Achievements – Alliances



- ◆ SNIA-DMTF-NVM Express Strategic Alliance
- Distributed Management Task Force (DMTF)
- Fibre Channel Industry Association (FCIA)
- The Green Grid
- NVM Express
- Open Fabric Alliance (OFA)
- Open Grid Forum (OGF)
- SCSI Trade Association (STA)
- Trusted Computing Group (TCG)









2019 Achievements – Regional Groups



Report to SNIA Board, Mktg Ops provides global support, SNIA PR global point of contact

- ◆ SNIA EMEA Regional Affiliate
 - Successful SDC EMEA event in Tel Aviv; added SMB3 Plugfest and education
- SNIA Japan Regional Affiliate
 - Ongoing technical storage seminars, end user surveys and industry engagements
- SNIA India Regional Affiliate
 - Successful SDC India event in Bangalore; sustained Meet-up program
- SNIA South Asia Regional Community
 - Minimal activity
- SNIA Malaysia Regional Community
 - Community led by Chin-Fah Heoh, with blogs, meet-ups, and educational briefings
- SNIA Brazil Regional Community
 - Educational focus, translating dictionary and tutorials into Portuguese
- SNIA China Regional Community
 - Swordfish spec translated; SSSI participating in local events, PM Hackathons



FY2020

2020 - Technical Work Focus Areas



- Cloud Data Management Interface (CDMI) Specification v2.0
- Computational Storage Architecture and Programming Model v1.0
- Key Value Storage API Specification v1.1
- Native NVMe-oF Drive Specification Version 1.0
- NVM Programming Model v1.3
- Persistent Memory (PM) Storage Performance Test Specification v1.0
- Storage Management Initiative Specification (SMI-S) v1.8.4
- ◆ SNIA Emerald[™] Power Efficiency Measurement Specification 4.0
- Swordfish Scalable Storage Management API v1.1.1
- Transport Layer Security (TLS) v1.1

SFF TA TWG Standards in Development



- SFF-8071 v1.9.2
 - SFP 1X 0.8mm Card Edge Connector
- SFF-8201 v3.4.1
 - 2.5" Form Factor Drive Dimensions
- SFF-8301 v1.9.1
 - 3.5" Form Factor Drive Dimensions
- SFF-8612 v0.9.1
 - MiniLink 4/8X Shielded Connector
- ♦ SFF-8621 v0.2
 - MiniLink 4/8X 24 Gb/s Interconnect Solution

- SFF-TA-1004 v0.10
 - Tunable QSFP+/ QSFP28 Memory Map for ITU Frequencies
- SFF-TA-1016 v0.1
 - Internal Un-shielded High Speed Connector System
- → REF-TA-1012 v0.2
 - Pin Assignment Reference for SFF-TA-1002 Connectors

2020-2021 Marketing Objectives



Marketing Steering Committee Objectives

- Continued oversight and direction-setting for marketing operations
- Drive consistent cadence of PR outreach
- Multiple voices communicating the SNIA message
 - > Board/Chair, Executive Director, Forum/Initiatives leaders, technical leaders, etc.

Marketing Operations Objectives

- Market SNIA as the globally recognized and trusted authority for storage leadership, standards, and technology expertise
- Provide marketing and messaging in support of the Strategy Committee objectives and adapt throughout the year to ensure desired outcomes
- Promote SNIA Education and its educational programs
- Support SNIA membership recruitment, retention and engagement initiatives



SNIA Board of Directors Elections 2019-2020

2019-2020 Elected Board of Directors



- Richelle Ahlvers Broadcom **
- David Dale NetApp, Inc *
- Chris Lionetti HPE **
- J Michel Metz Cisco Systems **
- Jim Pappas Intel Corporation *
- Rob Peglar Advanced Computation and Storage **
- Paul von Stamwitz Fujitsu ***
- Tatsuya Tanaka Kioxia *
- Michelle Tidwell IBM *
- Board Advisors:
 - Michael Oros SNIA Executive Director
 - 2019-2020 Technical Council Chair(s) (TBD)





















^{*} Directors elected to a new 2-year term. ** Directors serving year-2 of elected term. *** Serving elected seat term.

Please note: SNIA Officer elections take place October 24th. Three (3) Appointed Seats and Five (5) Advisor Seats on Board of Directors are Available.

2019-2020 Elected Technical Council



- Curtis Ballard HPE **
- Alan Bumgarner Intel Corporation *
- Mark Carlson Kioxia **
- Glen Jaquette IBM *
- Fred Knight NetApp **
- Bill Martin Samsung *
- Tom Talpey Microsoft *
- Steve Wilson Broadcom **
- TC Advisors:
 - Arnold Jones, SNIA, TC Managing Director



^{*} Members elected to a new 2-Year Term as Voting Members. ** Serving Year-2 of Term in elected seat. Three (3) Appointed Voting Seats and 14 Advisor Seats are Available.

SNIA Staff and Contractors

(as of October 1, 2019)



- Executive Director: Michael Oros
- Operations and Business Services
 - Michael Meleedy, Business Operations Director
 - Kelli Martin, Business Services Coordinator
 - Andee Wilcott, Web Manager (Contractor)
- Marketing
 - Kristin Hauser, Diane Marsili and Denise Ridolfo (Contractors)
- Membership Services and BizDev
 - Erin Weiner, Membership Services Manager
 - Marty Foltyn, Business Development Manager (Contractor)

- SNIA Emerald
 - Dave Thiel, Program Director (Contractor)
- Education and Global Programs
 - Paul Talbut, Global Education and Regional Program Director (Contractor)
- Technology and Technology Center
 - Arnold Jones, Technical Council Managing Director
 - Contractor support model for TC and Lab
- SMI Management and Program Support (Includes F&I Programs)
 - Tom Mancuso, Senior Technical Operations Manager
 - Linda Capcara, SMI Marketing (Contractor)

Note: SNIA has Contractor Agreements with additional industry and subject matter experts in various functions and Forums and Initiatives (F&Is)

2020 - SNIA Events

- SNIA Annual Members Symposium
 - January 20-24, 2020, Hyatt Santa Clara, CA
- Persistent Memory Summit
 - January 23, 2020, Hyatt Santa Clara, CA
- Persistent Memory Hackathons | https://www.snia.org/pmhackathon
- SDC EMEA | February 4-5, 2020 Tel Aviv | https://www.snia.org/sdcemea
- ◆ SNIA Members Symposium | April 20-24, 2020, Fremont, CA
- ◆ SDC India | May 21-22, 2020 Bangalore | https://www.snia.org/sdcindia
- SNIA Members Symposium/APTS | July 20-24, 2020, Portland, OR
- ◆ SDC North America | Sept. 21-24, 2020 Santa Clara, CA | https://www.snia.org/sdc
- SNIA Members Symposium | October, 2020, Colorado Springs, CO



Acknowledgement



- We could not do the work of SNIA without our dedicated volunteers.
 You are consistently our greatest asset
- Feedback on how we are doing and new initiatives to start/consider is always welcomed
- The support of all SNIA member companies, SNIA staff and contractors is deeply appreciated



Questions

Your Feedback is encouraged and always appreciated.



Thank you

We look forward to your active participation in SNIA throughout the upcoming year.



Backup

What We Do



Standards Development and Adoption

- Spec development; submissions for International Standard ratification (ISO/IEC)
- Open source software to accelerate adoption

Interoperability Assurance

Plugfests & conformance testing

Technology Acceleration and Promotion

- Special Interest Groups to promote technologies
- Vendor collaboration to accelerate adoption

Global Vendor-Neutral Education

- Peer-reviewed webcasts and tutorials
- Conferences and presentations
- White papers, articles, blogs, etc.
- IT training and certification courses

Top Reasons To Join and Be Active In SNIA SNIA



INFLUENCE

- ✓ Influence storage technologies important to the marketplace
- ✓ Amplify your vendor storage expertise and reputation
- ✓ Participate in the development of international standards



COLLABORATE

- **✓** Participate in multi-vendor interoperability activities
- Gain insight into disruptive industry trends
- ✓ Form strategic alliance partnerships
- Develop relationships throughout the industry



LEAD THE INDUSTRY

- ✓ Educate on all things storage
- Drive standards development and adoption
- ✓ Align strategic business objectives with worldwide standards

Areas of Focus



PHYSICAL STORAGE

- Connectors, Form Factors & Transceivers

- Solid State Storage
- Hyperscaler Storage
- Object Drives
- Computational Storage

DATA MANAGEMENT

- Protection
- Integrity
- Retention

DATA SECURITY

- Storage Security
- Privacy and Data Protection Regulations

CLOUD STORAGE TECHNOLOGIES

- Data Orchestration
- Data into and out of the Cloud

PERSISTENT MEMORY

- NVDIMMs
- Non-Volatile Memory Programming Model



POWER EFFICIENCY MEASUREMENT

- SNIA Emerald™ Power Efficiency

NEXT GENERATION DATA CENTER

- Software Defined Storage
- Composable Infrastructure
- Next Generation Storage Management API

NETWORKED STORAGE

- Data Access Protocols
- Networking Technologies for Storage

STORAGE MANAGEMENT

- Device and System Management

SNIA BrightTALK Webcasts:

Top 10 Educational Events: (Sept 2018 – August 2019)



	Date	Name	F/I	Speaker(s)	Total Views
1	Jan'19	What NVMe/TCP Means to Networked Storage	NSF	Grimbeg/Metz/Reu	1,165
2	May'19	Kubernetes in the Cloud (Part One)	CSTI	Baldwin/Fuchs/Jochimsen	825
3	Feb'19	File vs. Block vs. Object Storage	SNIA EMEA	McDonald/Talbut	780
4	Sept'18	Centralized vs. Distributed Storage	NSF	McDonald/Kim/Metz	742
5	Jan'19	Virtualization and Storage Networking Best Practices	NSF	Hosterman/Massae/Metz	685
6	Feb'19	The Scale-Out File System Architecture Overview	NSF	Tao/Kim	615
7	Feb'19	What's New in Container Storage	CSTI	Hudgins/McDonald	519
8	May'19	New Landscape of Network Speeds	NSF	Chalupsky/C. Carlson/Onufryck/Kim	457
9	May'19	Networking Requirements for Hyperconvergence	NSF	Metz/McMonigal/McDonald	440
10	Mar'19	Extending RDMA for Persistent Memory over Fabrics	NSF	Kim/Hurson/Davis	420