



2018 ANNUAL MEMBERS MEETING

October 11, 2018

9AM Mountain / 8AM Pacific – Teleconference
(See Next Page for Dial-in and WebEx Instructions)



Conference Call Dial-in and WebEx Info



Teleconference/WebEx coordinates:

- ◆ Go to: snia2.webex.com
- ◆ Click on the meeting name: **SNIA Annual Members Meeting**
- ◆ Type in your name, email address, and **meeting password: 2018**
- ◆ Click "Join Now"
- ◆ **If you are calling in using VoIP** then click on "Call Using Computer" or "Use the Internet"
- ◆ **If you are calling in using a phone** then click on "I will Call In". This will display the phone number, access code and Attendee ID number you need to use to join the meeting. Once you have this information:
 - ◆ Dial the Toll Number: 415-655-0002
 - ◆ Enter the meeting access code 661 754 956#
- ◆ When asked for Attendee ID number just press the <Attendee ID> followed by '#'.

2018 Annual Members Meeting Agenda



- ◆ Greetings and Roll Call (for Quorum) – Michael Oros, Executive Director
- ◆ FY2017 Annual Report published
 - ◆ Motion to Approve 2017 Meeting Minutes – Jim Williams, SNIA Secretary
 - ◆ Fiscal Report (2017 Annual Report) - Al Zmyslowski, SNIA Treasurer
- ◆ FY2018
 - ◆ Announcement of 2018 Board and Technical Council Election Results – Michael Oros, ED
 - ◆ SNIA update and achievements to date – David Dale, SNIA Chairman
- ◆ FY2019 – what’s ahead for SNIA – David Dale, SNIA Chairman
- ◆ Questions and Answers – Members and SNIA Board Members
- ◆ Adjourn

Roll Call and Approval of 2017 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 2017 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
- ◆ Richelle Ahlvers, Broadcom
- ◆ J Metz, Cisco
- ◆ Donald Mounce, Data Dynamics
- ◆ George Ericson, Dell Computer Corp.
- ◆ Leland Bettis, Formulus Black
- ◆ Al Zmyslowski, Fujitsu America Inc.
- ◆ Chris Lionetti, HPE
- ◆ Eric Hibbard, Hitachi Data Systems
- ◆ Yolanda Fang, Huawei Technologies
- ◆ Michelle Tidwell, IBM
- ◆ Jim Pappas, Intel Corporation
- ◆ Ted Vojnovich, Lenovo
- ◆ Wang Zhenhao, MacroSAN
- ◆ Craig Carlson, Marvell
- ◆ Paul Suhler, Micron
- ◆ Tom Talpey, Microsoft Corporation
- ◆ Scott Shadley, NGD Systems
- ◆ David Dale, NetApp
- ◆ Jim Williams, Oracle Corporation
- ◆ Rob Barker (Barkz), Pure Storage
- ◆ Bill Martin, Samsung SSI
- ◆ Tau Leng, Supermicro
- ◆ Mark Carlson, Toshiba Memory Corp
- ◆ Tim van Ash, Virtual Instruments
- ◆ Artem Ikoiev, YADRO

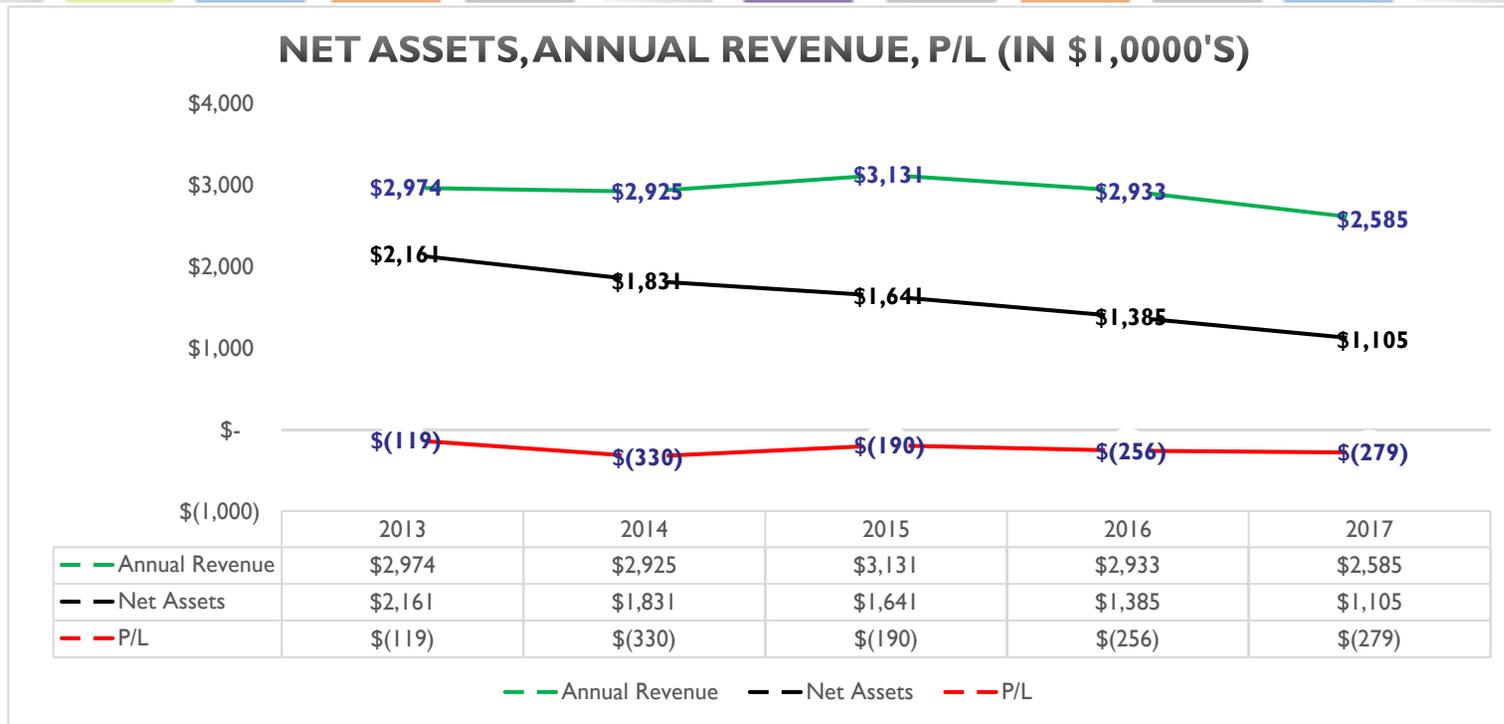
SNIA FY2017 Annual Report



- ◆ Full FY2017 annual report posted on SNIA website:

https://www.snia.org/sites/default/files/corp-docs/AnnualReport17_final.pdf

SNIA Fiscal Report: 2017



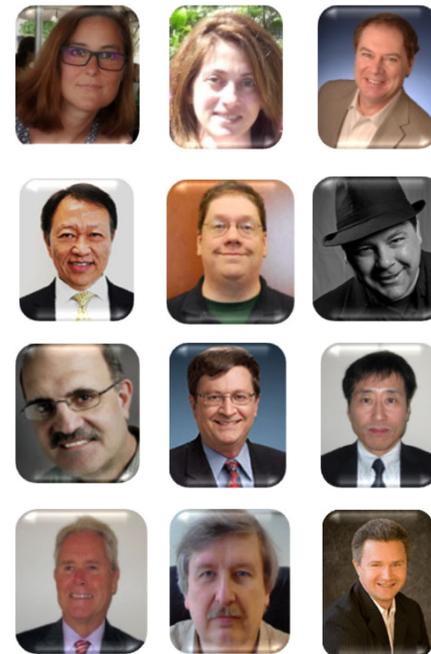
Note: P/L numbers include allowances for bad debt, depreciation and vacation accrual. For details, refer to our 2017 annual report at: http://snia.org/about/corporate_info/documents



FY2018

Announcing 2018-2019 Board of Directors

- ◆ Richelle Ahlvers – Broadcom *
- ◆ Sue Amarin – Micron Corporation **
- ◆ David Dale – NetApp, Inc **
- ◆ Tau Leng – Supermicro ***
- ◆ Chris Lionetti – HPE *
- ◆ J Michel Metz – Cisco Systems *
- ◆ Jim Pappas – Intel Corporation **
- ◆ Rob Peglar – Advanced Computation and Storage *
- ◆ Tatsuya Tanaka – Toshiba Memory **
- ◆ Jim Williams – Oracle Corporation **
- ◆ Al Zmyslowski – Fujitsu *
- ◆ Board Advisors:
 - ◆ Michael Oros – SNIA Executive Director
 - ◆ 2017-2018 Technical Council Chair(s) (TBD)



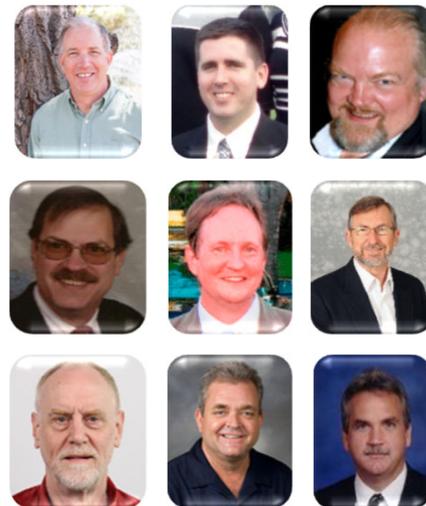
* Directors elected to a new 2-year term. ** Directors serving year-2 of elected term. *** Serving Appointed Seat term.

Please note: SNIA Officer elections take place October 11th. Two (2) Appointed Seats and Five (5) Advisor Seats on Board of Directors are Available.

Announcing 2018-2019 Technical Council



- ◆ Curtis Ballard – HPE *
- ◆ Alan Bumgarner – Intel Corporation **
- ◆ Mark Carlson – Toshiba Memory *
- ◆ Fred Knight – NetApp *
- ◆ Bill Martin – Samsung **
- ◆ David Pease – IBM **
- ◆ 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, 2018)



- ◆ **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

- ◆ **SMI Management and Program Support (Includes F&I Programs)**
 - ◆ Tom Mancuso, Senior Technical Operations Manager
 - ◆ James Rigger, Conformance Test Programs 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)

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 2018



- ◆ **Broaden technical agenda**
 - ◆ Bring in new technical projects (e.g., Computational Storage)
 - ◆ Enable faster spec development, external review, and new implementation enablement tools
- ◆ **Increase membership**
- ◆ **Streamline the organization and improve efficiency**
 - ◆ Asses operations functions and tools
- ◆ **Build on marketing strengths**
- ◆ **Strengthen partnerships with other SDOs and open source community**
 - ◆ Renew collaborative work registers with particular focus on emerging standards
 - ◆ Strong focus on next-generation technologies and infrastructures
- ◆ **Execute online education objectives**
 - ◆ Strong webcast agenda ; more structured engagement with analyst and blogger community
 - ◆ New advance level SNIA Storage Certification
- ◆ **Balanced budget**

2018 Achievements – Technical Work



- SNIA Emerald™ Power Efficiency Measurement Specification 3.0.2
- Linear Tape File System (LTFS) Format Specification v2.4
- Real World Storage Workload (RWSW) IO Capture & Test Specification for Datacenter Storage Version 1.0.7
- Solid State Storage Performance Test Specification (PTS) 2.0.1
- Storage Management Initiative Specification (SMI-S) v1.8.3
- Swordfish Scalable Storage Management API v1.0.6
- Technical Whitepaper: Persistent Memory Hardware Threat Model v1.0
- Technical Whitepaper: Storage Security – Data Protection

Standards – SFF TA TWG



- ◆ SFF-8024 v4.5 - SFF Cross Reference to Industry Products
- ◆ SFF-8053 v5.5 - GBIC (Gigabit Interface Converter)
- ◆ SFF-8070 v1.3 - ATAPI Removable Rewritable Media Devices
- ◆ SFF-8086 v2.6 - Mini Multilane 4X 10 Gb/s Common Elements Connector
- ◆ SFF-8087 v2.6 - Mini Multilane 4X Unshielded Connector Shell and Plug
- ◆ SFF-8088 v3.4 - Mini Multilane 4X Shielded Connector Shell and Plug
- ◆ SFF-8099 v0.8 - SFF Committee Guidelines for Editors
- ◆ SFF-8201 v3.4 - 2.5" Form Factor Drive Dimensions
- ◆ SFF-8301 v1.9 - 3.5" Form Factor Drive Dimensions
- ◆ SFF-8351 v2 - 3.5" Form Factor Drive with High Density Connect
- ◆ SFF-8431 v4.1 - SFP+ 10 Gb/s and Low Speed Electrical Interface
- ◆ SFF-8436 v4.9 - QSFP+ 4X 10 Gb/s Pluggable Transceiver
- ◆ SFF-8448 v1.3b - SAS Sideband Signal Assignments
- ◆ SFF-8449 v2.1a - Management Interface for SAS Shielded Cables
- ◆ SFF-8472 v12.3 - Management Interface for SFP+
- ◆ SFF-8482 v2.5 - Serial Attachment 2X Unshielded Connector
- ◆ SFF-8486 v1.3 - Serial Attachment 4X Unshielded Connector
- ◆ SFF-8631 v1.4 - Serial Attachment X8/X16 Unshielded Device Connector
- ◆ SFF-8642 v3.3 - Mini Multilane 12X 10 Gb/s Shielded Connector (CXP10)
- ◆ SFF-8654 v1.2 - 0.6mm 4/8X Unshielded I/O Connector
- ◆ SFF-8661 v2.5 - QSFP+ 4X Module
- ◆ SFF-8662 v2.9 - QSFP+ 4X 28 Gb/s Connector (Style A)
- ◆ SFF-8667 v1 - Module w/High Density Connector for Enclosure Applications
- ◆ SFF-8672 v1.2 - QSFP+ 4X 28 Gb/s Connector (Style B)
- ◆ SFF-8682 v1.1 - QSFP+ 4X Connector
- ◆ SFF-9400 v1 - Universal 4/8X Pinouts
- ◆ SFF-9402 v1 - Multi-Protocol Internal Cables for SAS and/or PCIe
- ◆ SFF-9482 v1 - Serial Attachment 2X Unshielded Connector Pinouts
- ◆ SFF-9629 v1 - Serial Attachment 4X Unshielded Connector Pinouts
- ◆ SFF-9639 v2.0a - Multifunction 6X Unshielded Connector Pinouts
- ◆ SFF-TA-1000 v1 - 2.5" Form Factor Drive with High Density Connector
- ◆ SFF-TA-1001 v1.1 - Universal x4 Link Definition for SFF-8639
- ◆ SFF-TA-1005 v1 - Universal Backplane Management (UBM)
- ◆ SFF-TA-1006 v1.1 - Enterprise & Datacenter 1U Short SSD Form Factor
- ◆ SFF-TA-1007 v1 - Enterprise and Datacenter 1U Long SSD Form Factor
- ◆ SFF-TA-1008 v1 - Enterprise and Datacenter SSD 3" Form Factor
- ◆ SFF-TA-1009 v2 - Enterprise and Datacenter SSD Pin & Signal Spec.
- ◆ SFF-TA-1002-04, 10-15
 - ◆ In Process specs

2018 Achievements – Membership



- Membership level growing:
 - ◆ 83 core members (+11 members YTD)
 - ◆ 60 SFF members (+11 members YTD)
 - ◆ 41 Educational/Non-Profit members
 - ◆ 22 non-core RA/Global Members
- Voting membership increased to 26 (+2 members YTD)
- Startup Membership category launched last year: now 10 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

2018-2019 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

2018-19 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

2018 Marketing Accomplishments



➤ Raise SNIA industry leadership profile and activities

- SNIA Technology Focus Areas defined and promoted
- SNIA Gold deck presented at key industry events
- SNIAVideo/YouTube channel play list organized by Technology Focus Areas
- Won 2 'Best of Show' awards at Flash Memory Summit
- High-profile media coverage from Forbes, EWeek, Electronic Design, EE Times, The Register, CTR, and TechTarget
- Broadened audience reach and awareness with Storage Field Day participation - over 4,800 video views

➤ Generate blogs, newsletters, contributed articles, and media interviews targeted at end user/IT professionals and storage vendors

- Published 33 SNIA on Storage Blogs - average 3 per month
- Focus on new blog content resulted in a 67% increase year-over-year
- Published 9 SNIA-authored articles as of September
- Contracted with 2 freelance writers to develop content for blogs and contributed articles
 - › Published 6 articles and blogs; working on 1 article for CSTI and 1 article on Green Storage
- Surpassed our 2018 goals
 - › 40 SNIA speakers at industry events
 - › 32 pick-ups of media coverage
 - › 4 press briefings

2018 Marketing Accomplishments



- ◆ Engage in social media for real-time mindshare and relevance, inspiring conversations and demonstrating thought leadership
 - ◆ Built SNIAVideo/YouTube library to over 550 videos
 - ◆ Grew SNIAVideo audience by 61%, 38,700+ views
 - ◆ Social Media Task Force is actively tweeting and posting
 - ◆ LinkedIn followers up 8% and Twitter followers up 16%
 - ◆ Monitoring key industry pundits, Storage Field Day bloggers and SNIA's top tier media
- ◆ Deliver vendor-neutral webcasts
 - ◆ BrightTalk webcasts have proved to be a highly effective and cost effective way to deliver educational and technical messaging
 - › Reaching audiences that far exceed any other SNIA events
 - ◆ Delivered 19 webcasts (as of September) - on track to deliver 24 by year end
 - ◆ ESF/NSF has built a loyal audience with “Great Storage Debate” and “Too Proud to Ask” series
 - › These 2 series represent over 11,000 views
 - ◆ BrightTalk subscribers now over 36,500

2018 Marketing Accomplishments



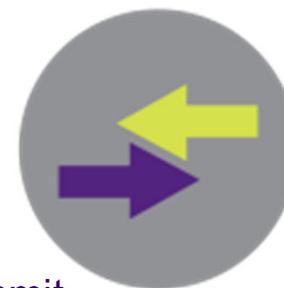
- **Promote SNIA's technical work and impact on key industry trends**
 - ◆ Created a new At-A-Glance Technical Work table - https://www.snia.org/tech_activities/work
 - ◆ 4 technical whitepapers published and promoted
 - ◆ Published 9 news/press announcements
- **Improve the overall SNIA member experience**
 - ◆ Major revisions to the SNIA website:
 - > Improving user experience and more intuitive based on technology focus areas - less inwardly focused
 - > On-going clean up of webpages - improving ease of navigation
 - ◆ Ensure member company visibility for contributions in SNIA marketing activities
 - ◆ Provide marketing support for technology communities – enabling members to focus on being content experts
- **Develop compelling outreach materials**
 - ◆ Technology Communities brochure
 - ◆ Membership brochure
 - ◆ New signage and materials leveraging the 9 key focus area graphics

2018 Achievements – Alliances



➤ Promote SNIA activities with alliance partners

- ◆ Announcement of DMTF and NVM Express alliance
 - › Supported NVM Express Developer Day
- ◆ Announcement of OpenFabrics alliance
 - › SNIA, OFA and JEDEC co-sponsored track at Flash Memory Summit



2018 Achievements – Events

Raise SNIA industry leadership profile and activities



- Technical Symposiums (Jan, Mar, May, July, Oct)
- Persistent Memory Summit (Jan)
- Delivered 3 Storage Developer Conferences
 - Inaugural SDC EMEA (February: Tel Aviv, >100 attendees)
 - SDC India (March: Bangalore, >100 attendees)
 - SDC North America (September: Santa Clara, almost 500 attendees)
- DMTF/SNIA Alliance Partners Technical Symposium (July)
- Flash Memory Summit (Aug) - won 2 'Best of Show' awards
 - Tutorials, SSSI Summit, PM Track, Keynote, Exhibit/Demos
- Broadened audience reach w/ Storage Field Day participation (~5,000 views)
- SNIA Gold deck and influential presentations at other key industry events
- Media coverage: Forbes, eWeek, Electronic Design, EE Times, The Register, CTR, and TechTarget



2018 Achievements – Education



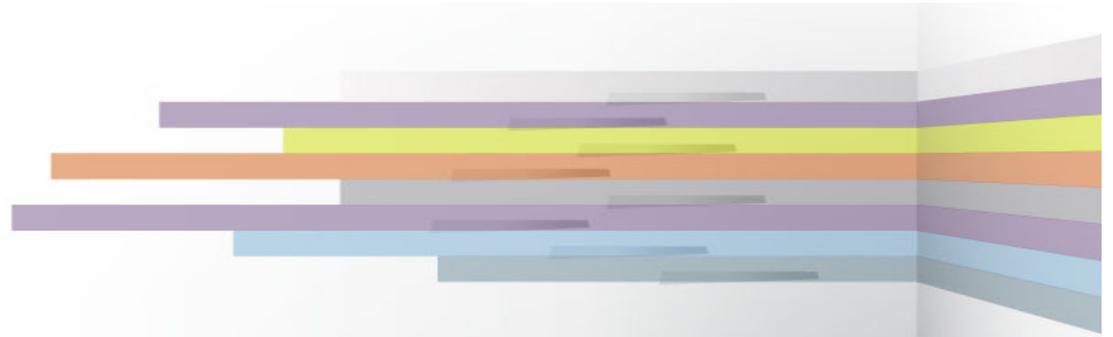
- New Advanced Level Certification launching in October
 - ◆ S10-510 Certified Information Architect (SCIA)
 - ◆ Replaces S10-210 (Management and Administration) and S10-310 (Planning Assessment and Design)
 - ◆ Students who pass the S10-110 (Storage Foundations) and the S10-510 (Certified Information Architect) will receive the Storage Networking Expert credential
- Over 200 Educational videos are now available on SNIA's YouTube Channel www.youtube.com/sniavideo
 - ◆ The number of Subscribers to our YouTube Channel has doubled year over year
- SNIA Tutorials were presented at Industry Events including Persistent Memory Summit, Flash Memory Summit, and SDC
- SNIA Dictionary (18th Edition) was distributed at industry events

2018 Achievements – Regional Groups



Global Steering Committee was dissolved, RAs report to SNIA Board, Mktg Ops responsible for global support, SNIA PR single point of contact globally

- ◆ **SNIA Europe - Regional Affiliate**
 - ◆ Successful SDC EMEA event in Tel Aviv; exploring meet-up program
- ◆ **SNIA Japan - Regional Affiliate**
 - ◆ Ongoing technical storage seminars, 11th end user survey being developed, continuing collaboration to standardize 'Top Runner Program' - power-consumption measurement of storage subsystems in Japan
- ◆ **SNIA India - Regional Affiliate**
 - ◆ Successful SDC India event in Bangalore; technical initiatives and Meet-ups are the primary focus
- ◆ **SNIA South Asia - Regional Community**
 - ◆ Reclassified from RA
- ◆ **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 ESF tutorials into Portuguese
- ◆ **SNIA China - Regional Community**
 - ◆ Swordfish spec being translated; SSSI participating in local events



FY2019

2019 - Technical Work Focus Areas



- ◆ Cloud Data Management Interface (CDMI) Specification v2.0
- ◆ CDMI Reference Implementation 1.0
- ◆ SNIA Emerald™ Power Efficiency Measurement Specification 4.0
- ◆ Linear Tape File System (LTFS) Format Specification v3.0
- ◆ NVM Programming Model v1.3
- ◆ Object Drive Key Value API Specification v1.0
- ◆ Swordfish Scalable Storage Management API v1.1
- ◆ Transport Layer Security (TLS) v1.1
- ◆ SFF specifications
- ◆ SNIA's application for reaffirmation as a PAS Submitter for 5-year term has been approved by ISO (through Sep. 2023)
- ◆ Technical Whitepaper: NVM PM Remote Access for High Availability v1.1
- ◆ Technical Whitepaper: Application use cases for Persistent Memory
- ◆ Technical Whitepaper: Storage Security: Vendor Controls

2019 – SNIA Events



- ◆ [SNIA Annual Members Symposium](#)
 - ◆ January 21-25, 2019, Santa Clara, CA
- ◆ [Persistent Memory Summit](#)
 - ◆ January 24, 2019, Santa Clara, CA
- ◆ **SDC EMEA**
 - ◆ January 30, 2019 Tel Aviv | <https://www.snia.org/sdcemea>
- ◆ **SDC India**
 - ◆ May 23-24, 2019 Bangalore | <https://www.snia.org/sdcindia>
- ◆ **SDC North America**
 - ◆ September 23-26, 2019 Santa Clara, CA | <https://www.snia.org/sdc>



Acknowledgement



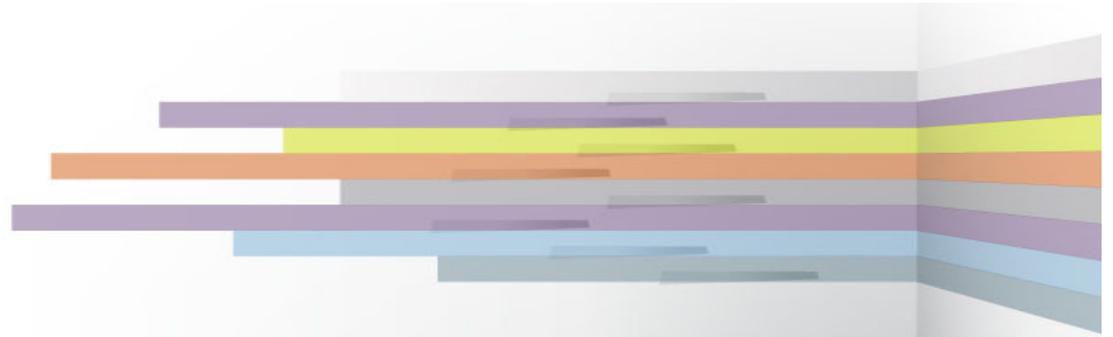
- We could not do the work of SNIA without our dedicated volunteers. You are consistently our greatest asset
- Feedback on how we are doing and new initiatives to start/consider is always welcomed
- The support of all SNIA member companies, SNIA staff and contractors is deeply appreciated



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



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

SNIA Areas of Focus

(Gold Deck)



<https://www.snia.org/sites/default/files/about/SNIA-Gold-Deck-2018-06-27.pdf>

PHYSICAL STORAGE

- Solid State Storage
- Hyperscaler Storage
- Object Drives
- Connectors, Form Factors & Transceivers

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

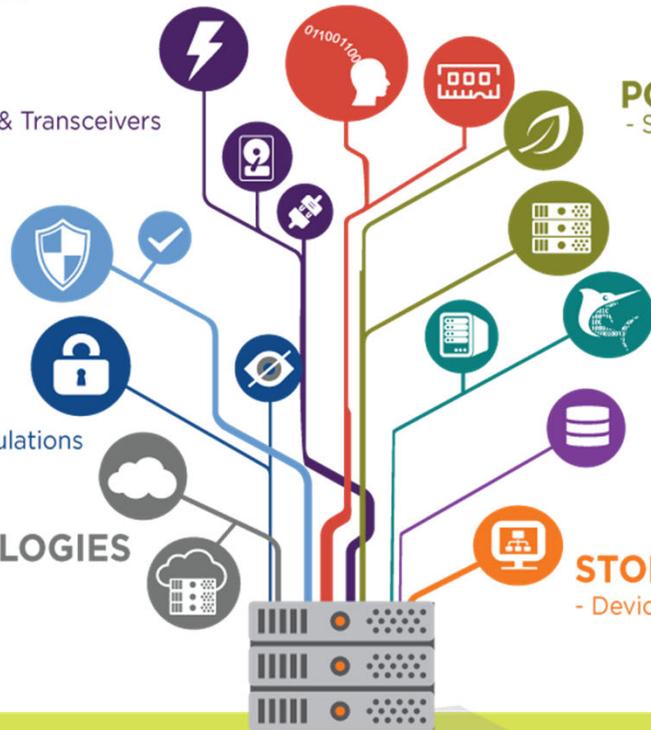
- Software Defined Storage
- Composable Infrastructure
- Next Generation Storage Management API

NETWORKED STORAGE

- Data Access Protocols
- Networking Technologies for Storage

STORAGE MANAGEMENT

- Device and System Management



2018 Technical Work Group Activity



PHYSICAL STORAGE

- Solid State Storage Performance Test Spec v2.0
- Object Drive Key Value API Spec v1.0
- SFF Technology Affiliate:
Connector, Form Factor and Transceiver Standards
- Real World Workload Spec for Datacenter Storage v1.0

DATA MANAGEMENT

- Linear Tape File System Format Spec v3.0

DATA SECURITY

- Data Protection White Paper
- Transport Layer Security for Storage Spec v1.1

CLOUD STORAGE TECHNOLOGIES

- Cloud Data Management Interface (CDMI) Spec v2.0
- CDMI Reference Implementation v1.0

PERSISTENT MEMORY

- Non-Volatile Memory Programming Model (NVMPM) v1.3
- Persistent Memory Hardware Threat Model v1.0
- NVMPM Remote Access for High Availability White Paper

POWER EFFICIENCY MEASUREMENT

- SNIA Emerald™ Power Efficiency
Measurement Spec v3.0 & v4.0

NEXT GENERATION DATA CENTER

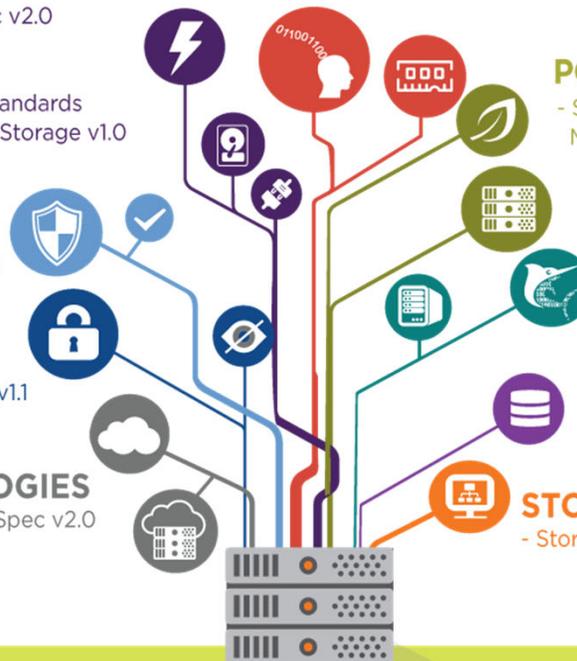
- SNIA Swordfish™ v1.0.6 – RESTful Storage
Management API for Cloud Data Centers
- Swordfish Emulator and Basic Web Client Software

NETWORKED STORAGE

- Requirements for Cross-Industry Alliances

STORAGE MANAGEMENT

- Storage Management Initiative Specification (SMI-S) v1.8



FY'18 SNIA Webcasts



Date	Webcast name	Total Views
Upcoming	Networking Requirements for Scale-Out Storage	
Upcoming	Create a Smarter and More Economic Cloud Storage Architecture	
Upcoming	Extending RDMA for Persistent Memory over Fabrics	
Upcoming	Flash Storage with 24G SAS Leads the Way in Crunching Big Data	
9/11/18	Centralized vs. Distributed Storage	543
8/22/18	RoCE vs. iWARP	739
8/21/18	The SNIA Persistent Memory Security Threat Model	156
8/7/18	Cloud Mobility and Data Movement	242
6/21/18	FCoE vs. iSCSI vs. iSER	544
5/15/18	Everything You Wanted To Know...But Were Too Proud To Ask - Storage Controllers	672
5/2/18	What's Next in Storage: Analysts and Experts Share their Predictions	473
4/19/18	Introduction to SNIA Swordfish™ – Scalable Storage Management	348
4/17/18	File vs. Block vs. Object Storage	1,753
4/17/18	Containers and Persistent Memory	166
2/14/18	Storage Performance Benchmarking: Workloads	934
1/31/18	FC vs. iSCSI	1,768
12/5/17	Understanding Persistent Memory	613
12/8/17	Unprotected Files on a Public Cloud Server: Live Panel on the NSA Data Leak	404
12/12/17	Multi-Cloud Storage: Addressing the Need for Portability and Interoperability	331
12/5/17	Build a Better Data Center with 24G SAS	296
12/11/17	2017 European Storage Research and Trends	263
2/22/18	Customer Support through Natural Language Processing and Machine Learning	261
12/13/17	GDPR & The Role of the DPO (Data Protection Officer)	234

**23 webcasts in FY'18
Over 10,740 views
and counting!**