Solid State Storage TWG

2022 Review and 2023 Plans

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S3 TWG 2022 Accomplishments

- TWG Charter Summary
  - Develop Performance Test Specifications for Solid State Storage (SSS)
  - Expanded to include Real-World Workloads & Persistent Memory Storage

- Recent completed and ongoing work:
  - Persistent Memory Performance Test Specification (PM PTS v1.0)
  - Ballot to release to SNIA Technical Council for public comment
  - Device Level Power Efficiency Measurement work with Green TWG
  - Capture & Listing of Real World Workloads (listed on CMSI site)

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S3 TWG 2023 Work Items

- Work Items 2023:
  - Power Efficiency – collaboration w/ Green TWG for power efficiency methodology, test & reporting
  - Reference Test Platforms (RTP) Listings - for NVMe SSD, PM Modules, NVDIMM-N/P
  - Real World Workload Listings – Updates to Reference Workloads on CSMI S3 TWG page

- SNIA Group collaboration:
  - IOTTA TWG - Real-World Workload IO Capture vs IO Trace test methodologies
  - CMSI - RTP & Reference Real-World Workload listing

- External group collaboration / Alliance work items:
  - Network Storage Forum (NSF) - Fabric Host Factor test with different workloads & target storage
  - Green Storage TWG - Power Efficiency Measurement for System & Device Level storage

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S3 TWG Membership as of 1/1/2023

- **Active (at least 9 mtgs per year)**
  - Actively Working - 6
    - Calypso, HPE, hyperI/O, Intel, SK Hynix, C. Paridon

- **Membership Roll - 98 Individuals and 31 Company employees**
  - Companies - 31
    - AMD, Calypso, DapuStore, Dell, Fadu, HPE, Huawei, InnoGrit, Inspur, Intel, JetIO, Kioxia, Lenovo, Marvell, Micron, Microsemi, NEC, NetApp, NETINT, NGD, Samsung, Scaleflux, Seagate, Silicon Motion, SK Hynix, SNIA, Solidigm, Supermicro, WD, Xilinix, Yangtze Memory
  - Individuals - 7
    - Wayne Adams, Tom Coughlin, Jim Handy, Chuck Paridon, David Thiel, Geoff Kuenning, Jim Fister

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S3 TWG Participation

- **What is the expected industry impact of this work**
  - Development of Technical Position Specifications, RTPs & White Papers
  - Adoption of Green TWG / S3 TWG power efficiency measurement tools, sw and tests

- **What is the industry segment relevance.**
  - SSD OEM/ODM, Controller/Firmware design
  - Datacenter Storage Vendors, Cloud Application & Storage Optimization
  - EPA, Japan Toprunner, EU

- **Why you should join and participate in this TWG**
  - Development of performance test specifications & WPs
  - Development of system and device level power efficiency measurement & tools
  - Capture and listing of Reference Real World Workloads
  - Establishment of industry standard power efficiency & measurement tools & tests

- **Who to contact for additional information**
  - Eden Kim, Calypso - edenkim@calypsotesters.com

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