



# Swordfish TWG

2024 Review and 2025 Plans

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# Swordfish TWG 2024 Accomplishments

- Charter: <https://members.snia.org/wg/swordfishtwg/document/21899>
  - Summary: Extend DMTF's Redfish spec for Storage
- Changed TWG name from SSM (Scalable Storage Management) to Swordfish TWG for clarity
- Supported by the Storage Management Community: find all info at [snia.org/swordfish](https://snia.org/swordfish)
- New Releases in 2024 - Version 1.2.6 and 1.2.7
  - 1.2.6:
    - Adds new metrics for FileSystem, StoragePool, StorageService, and enhancements to VolumeMetrics.
    - Introduces new mapping and masking models using Connections in the Fabric model and deprecates StorageGroups., and support for new volume properties: ProvidingStoragePool, ChangeStripSize, Asymmetric Logical Unit Access (ALUA) to manage reservations and adds enhancements to NVMe Domain Management, including ALUA support.
    - Updates to NVMe namespaces, such as simplified Logical Block Address (LBA) Format representation and multiple namespace management.
  - 1.2.7:
    - Adds the new Swordfish Interoperability Guide, a comprehensive reference guide to the Swordfish-specific extensions to the profile syntax, and a detailed usage guide for Swordfish features and profiles.
    - Swordfish Features Registry has also been enhanced to support resource-level features.
    - The release also contains new NVMe functionality for NVMe, expanding to include support for Command and Feature Lockdown via a trio of commands: ConfigurationLock, TargetConfigurationLockLevel and ConfigurationLockState.
    - Other new functionality: metrics for volumes, drives, and storage controllers, as well as support for NVMe SMART Metrics, enhanced NVMe-oF discovery controller capabilities managing NVMe-oF centralized discovery controllers.
    - There are also enhancements to the storage connections model, used to provide an updated mapping and masking model. Other integrated functionality is delivered in conjunction with the Redfish 2023.1 release.

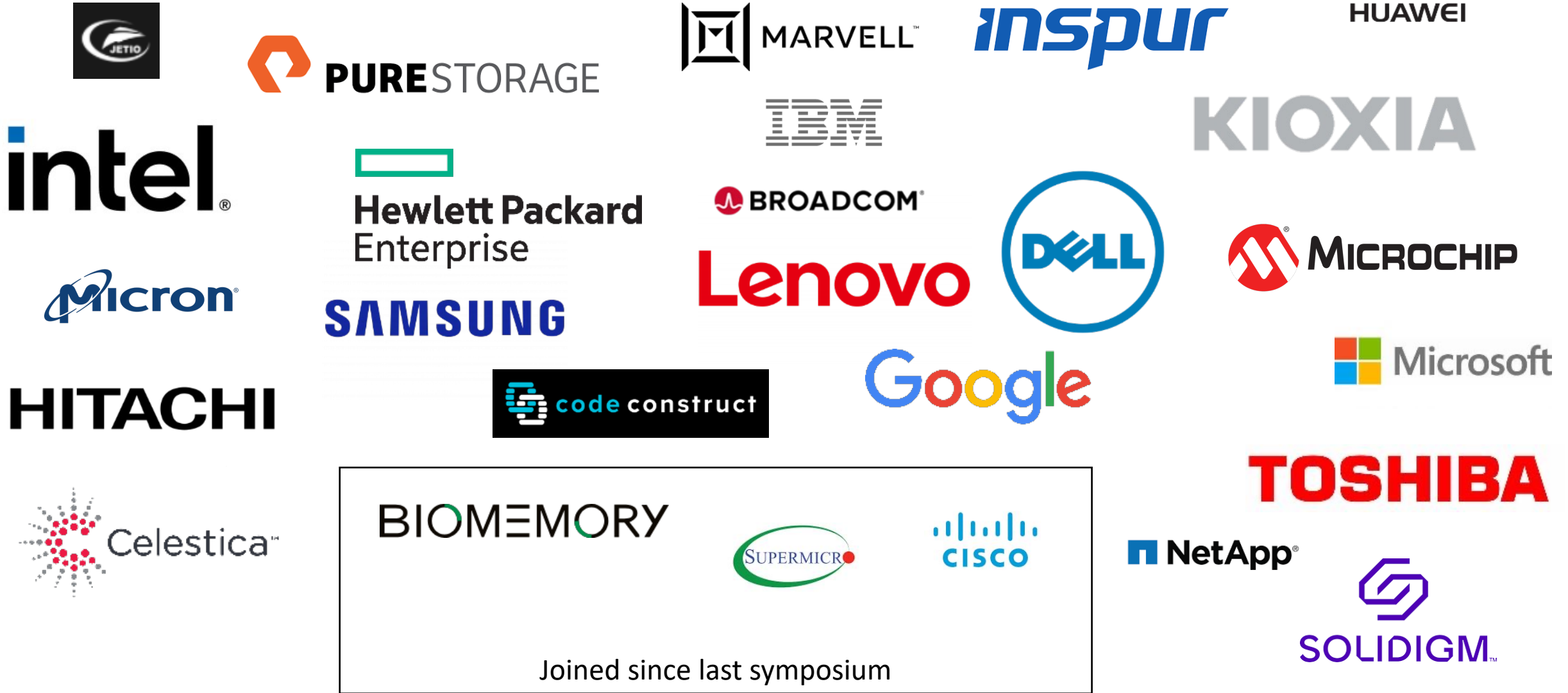
# Swordfish TWG Work Items: 2025

- Version 1.2.8 will release January 2024:
  - Enhancements to NVMe-oF White Paper
  - Updates to NVMe functionality and mapping guide for namespace management
  - Updated filesystem use cases and mockups, updated mapping and masking functionality, expanded StoragePool Metrics
- 1.2.8 targeted release to push as next ISO version
- Open source software additions:
  - Update Swordfish emulator:
    - Support joint work with Open Fabrics Alliance, DMTF, and GenZ work, prototyping managing fabrics and storage fabrics
- For reference - versions:
  - Version 1.2.x: Adds NVMe support - 2020
  - Version 1.1.x: Support for full block storage implementations - 2019
  - Version 1.0.x: Support for service-based implementations

# Swordfish TWG Work Items: 2025

- Collaboration with NVM Express, DMTF for new functionality
  - Additional NVMe / NVMe-oF capabilities, supporting new NVMe features as they are added
  - NVMe-oF / Boot Storage Use Cases
- Continue collaboration with OFA (and DMTF) to expand support added for NVMe-oF to additional types of fabrics
  - Continue collaboration with OFA, adding CXL fabric management
- Support for other SNIA Standards and Work Groups
  - DNA Data Storage
  - *CS, SDXI, xPU*
- Support new work from other alliance partners (e.g., UEC)
- Enhancements to support implementation feedback
- Enhancements to existing profiles based on feedback from CTP
  - File systems

# SSM TWG Membership (Jan'25)



A collage of logos for SSM TWG members as of January 2025. The logos are arranged in a grid-like fashion. A box highlights members who joined since the last symposium: BIOMEMORY, SUPERMICR, and CISCO. Other members include JETIO, PURE STORAGE, MARVELL, SILICON MOTION, HUAWEI, INSPUR, KIOXIA, INTEL, Hewlett Packard Enterprise, IBM, BROADCOM, MICROCHIP, MICRON, SAMSUNG, Lenovo, DELL, Google, Microsoft, HITACHI, code construct, TOSHIBA, NetApp, and SOLIDIGM.

\*Dropped Members: Futurewei, Seagate, Fujitsu, Kalray  
\*\*Cisco – dropped '23, rejoined

# Swordfish TWG Participation

- **Industry impact:**
  - Develop, maintain, and enhance Swordfish Storage Management Specification and supporting ecosystem – for standards-based storage management of: (Redfish) server-attach storage, external (standalone) storage, storage management of NVMe / NVMe-oF systems, cloud / hyperscalar, hyperconverged, enterprise datacenters
- **Who Participates:**
  - Storage vendors, system vendors, storage client application developers (storage management, server management, OS vendors, etc)
- **Join the Swordfish TWG to:**
  - Contribute new or modify existing content to improve interoperability, add support for new functionality, and accelerate your company's implementation
  - Monitor new content and discussions as your company decides when to start implementation
- **For additional information, contact:**
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