



Storage I/O and Data Management for Exascale Architectures

About IO-SEA

IO-SEA aims to provide a **novel data management** and storage platform for exascale computing based on hierarchical storage management (HSM) and on-demand provisioning of storage services. The platform will efficiently make use of storage tiers spanning NVMe and NVRAM at the top all the way down to tape-based technologies. System requirements are driven by data intensive use-cases, in a very strict co-design approach. The concept of ephemeral data nodes and data accessors is introduced that allow users to flexibly operate the system.

Multi-tiered Storage

**Ephemeral Data Life
Cycle Management**

**Advanced
Instrumentation**

Package of New API's



Our Approach

Data Workflow

Significantly improvement by allowing applications to tag data and therefore to add information about its future usage.

Instrumentation

Extension of tools in order to build applications and workflows models focusing on data creation and data consumption.

API

Design of Data Access and Storage application Interface (DASI) to abstract those structures from their actual storage form and tier location.

HSM

Making it possible to use NVMe devices, HDD, SSD and tapes inside the same tier and complete the whole data lifecycle inside the same system.



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