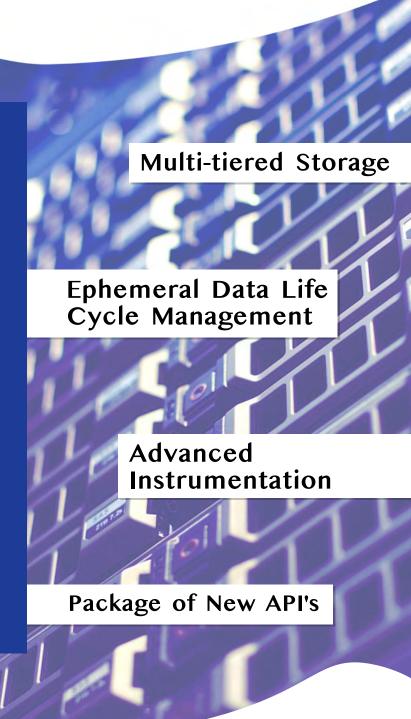


Data Management for Exascale Architectures

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.

























Our Approach

Data Workflow

Instrumentation

API

HSM

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

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

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

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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