Objective

Worldwide data volumes are exploding and islands of storage remote from compute will not scale. We will demonstrate the first instance of intelligent data storage, uniting data processing and storage as two sides of the same rich computational model. This will enable sophisticated, intention-aware data processing to be integrated within a storage systems infrastructure, combined with the potential for Exabyte scale deployment in future generations of extreme scale HPC systems.

Enabling only the salient data to flow in and out of compute nodes, from a sea of devices spanning next generation solid state to low performance disc we enable a vision of a new model of highly efficient and effective HPC and Big Data demonstrated through the SAGE project.

Objectives
- Provide a next-generation multi-tiered object-based data storage system (hardware and enabling software) supporting future-generation multi-tier persistent storage media supporting integral computational capability, within a hierarchy.
- Significantly improve overall scientific output through advancements in systemic data access performance and drastically reduced data movements.
- Provides a roadmap of technologies supporting data access for both Exascale/Exabyte and High Performance Data Analytics.
- Provide programming models, access methods and support tools validating their usability, including 'Big-
Data access and analysis methods
- Co-Designing and validating on a smaller representative system with earth sciences, meteorology, clean energy, and physics communities
- Projecting suitability for extreme scaling through simulation based on evaluation results.

Call Alignment: We address storage data access with optimised systems for converged Big Data and HPC use, in a co-design process with scientific partners and applications from many domains. System effectiveness and power efficiency are dramatically improved through minimized data transfer, with extreme scaling and resilience.

Field of Science
/natural sciences/computer and information sciences/data science/big data
/natural sciences/computer and information sciences/data science/data processing
/natural sciences/earth and related environmental sciences
/engineering and technology/environmental engineering/energy and fuels/renewable energy
/natural sciences/computer and information sciences/data science/data analysis

Programme(s)
H2020-EU.1.2.2. - FET Proactive

Topic(s)
FETHPC-1-2014 - HPC Core Technologies, Programming Environments and Algorithms for Extreme Parallelism and Extreme Data Applications

Call for proposal
H2020-FETHPC-2014
See other projects for this call

Funding Scheme
RIA - Research and Innovation action

Coordinator
SEAGATE SYSTEMS UK LIMITED
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Po9 1sa Havant
United Kingdom
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
EU Contribution
€ 2 649 139,25

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Participants (11)

ALLINEA SOFTWARE LIMITED
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Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
EU Contribution
€ 84 633,60

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BULL SAS
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Activity type
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EU Contribution
€ 916 900

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UNITED KINGDOM ATOMIC ENERGY AUTHORITY
Address
Culham Science Centre
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Activity type
Research Organisations
EU Contribution
€ 248 750

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