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Next Generation I/O Solutions for the Exascale

Come and speak to us at SC15!

Many of the NEXTGenIO project partners are represented at SC15, so please stop by our booths and talk to us about the work we do:

- **EPCC:** #2503
- **Intel:** #1333,1533
- **Fujitsu:** #1827
- **TUD:** #1351
- **BSC:** #241
- **Allinea:** #1722

|epcc|



FUJITSU

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allinea

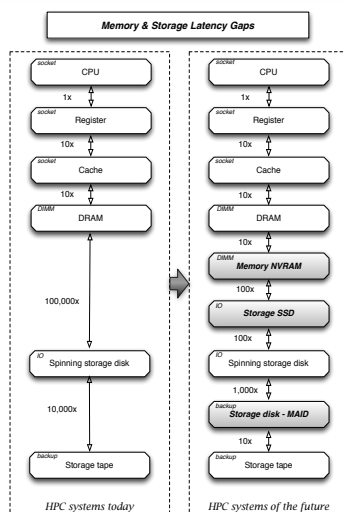


NEXTGenIO has received funding from the European Union's Horizon2020 Research and Innovation programme under Grant Agreement no. 671951.

The problem

Today most high-end HPC systems employ data storage separate from the main computer system. The I/O subsystem often struggles to deal with the degree of parallelism present simply because too many processors are trying to communicate with the slow disk storage at once. The result is poor I/O performance, which impacts application runtimes and thus science throughput.

As we move into the domain of extreme parallelism at the Exascale, we need to address the I/O bottleneck challenge if such systems are to deliver acceptable performance and efficiency for their application user communities.



The NEXTGenIO solution

The NEXTGenIO project will explore the use of Intel's 3D XPoint™ technology and associated systemware developments through a co-design process with three end-user partners: a high-end academic HPC service provider, a global numerical weather centre and a commercial on-demand HPC service provider. A key output of NEXTGenIO will be a prototype system built by Intel and Fujitsu, based on the new technologies.

NEXTGenIO will also develop an I/O workload simulator to allow improvements in performance to be directly measured on the new system in a range of research configurations. Systemware developed in the project will include performance analysis tools, advanced schedulers that take into account data locality and energy efficiency, optimised programming models, and APIs and drivers for optimal use of the new I/O hierarchy.

NEXTGenIO details

The NEXTGenIO project started on the 1st October 2015 and is set to run for 3 years.

NEXTGenIO is coordinated by EPCC, the supercomputing centre at the University of Edinburgh.

The NEXTGenIO project was awarded €8.1m by the European Commission as part of its Horizon2020 FETHPC programme.

For more information, please contact

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