Percipient Storage

A Storage Centric Approach to BDEC

A homogenous view of data anywhere/everywhere

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BDEC Systems - General Requirements
Science generation from high volumes of simulation + Instrument & Social data

Storage systems for BDEC

- Storing and Retrieving data with very high throughput and low latency
- Running complex data processing and analytics tasks in parallel with ongoing simulation
- Providing access to vast external data sets (e.g. from instruments)
**Overall Conceptual Architecture**

Object Storage Framework (Ground up design for Exascale)

- Compute capability close to data
- Flexible API
- Accommodates next generation storage device technologies

- Plugs into existing infrastructure
- API interoperates with well known cloud APIs and HPC interfaces (eg: HDF5/NetCDF)
- API allows plug-in apps such as HSM
- Advanced analytics stacks work directly on top of API
- Architecture suitable for PGAS programming models (usage of NVRAM)