Hasan Abbasi

Current

Title: Runtime System for I/O staging in support of voluminous in-situ processing of extreme scale data (RSVP)
Award Number: DE-FOA-0001043
Amount: $858,000
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
P.I.: Scott Klasky
Award Period: 08/01/13 – 09/30/16
Person-Person Months: 1.0
The relevance to the proposed work: The project uses ADIOS to evaluate different runtime engines for I/O optimizations.

Title: ExaCT Center for Exascale Simulation of Combustion in Turbulence Co-Design Center
Amount: $500,000
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
P.I.: Jackie Chen
Award Period: 6/1/2011 – 6/30/2016
Person-Person Months: 5
The relevance to the proposed work: We are evaluating the impact of regeneration vs. multi-tiered storage in an exascale workflow for the study of uncertainties in turbulent combustion.

Title: Performance Understanding and Analysis for Exascale Data Management Workflows
Amount: $145,000
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
Award Period: 09/01/2014 – 08/31/2017
Person-Person Months: 5
The relevance to the proposed work: The project is investigating the set of performance metrics that can provide comprehensive understanding for end to end workflows in exascale systems.

Title: Hobbes: Exaos Research Project
Award No:
Amount: $450,000
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
Award Period: 02/07/2014 - 09/30/2016
Person-Person Months: Years 1-3: No salary support
P.I.: Ron Brightwell
Award Period: 7/1/13 – 6/30/16
Person-Person Months: 4

The relevance to the proposed work: We are studying the OS level mechanisms for creating composed application workflows and developing a suitable API for composition at exascale.

Pending

Title: In-Memory Data Analytics: In-memory, Distributed, Persistent Data Storage for Efficient Execution of In-situ Data Analytics
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
PI: Karsten Schwan
Person-Person Months: 4.2
Award Period: 09/01/2015 – 08/31/2018
The relevance to the proposed work: We are studying the use of NVRAM based storage paradigm as a first class citizen, combining layout optimizations, dynamic execution of transformation functions and user defined consistency for memory objects.

Title: Science-driven Data Management for multi-tiered Storage
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
PI: Scott Klasky
Person-Person Months: 4.2
Award Period: 09/01/2015 – 08/31/2018
The relevance to the proposed work: Design of a new class of storage system that combine knowledge from the application with knowledge from backend storage to optimize data layouts and provide predictable performance.

Title: KLUES: A WorKload-driven, ComposabLe, Usable, and Extensible Modeling Framework for Extreme-Scale Storage System Evaluation
Location: Oak Ridge National Laboratory
Sponsor: Department of Energy ASCR
PI: Feiyi Wang
Person-Person Months: 3
Award Period: 09/01/2015 – 08/31/2018
The relevance to the proposed work: This project is exploring a new approach to creating a closed form performance model of an HPC storage system by combining a mixed workload from extract I/O kernels with detailed I/O instrumentation information and composing them in a framework that can execute on hardware or in a simulator.