Carlos Maltzahn: Current and Pending Support

Project	Funding	Person Months / Year
CURRENT SUPPORT		
DOE, Sandia National Laboratories: "Extending IO Research Advancements onto New Platforms and Architectures" (previously titled "Investigation of exascale-ready coordination frameworks for integrated application workflow management")	$207,000 (2013-2015)	1
Description and overlap: This project explores how to perform three aspects of reproducible evaluation of IO and data management advances: workload reproducibility, platform reproducibility, and result reproducibility. These processes shall help evaluate the applicability of advances between Trinity and the CORAL systems as well as future architectures. No overlap.		
DOE, Los Alamos National Security: "Institute for Scalable Scientific Data Management (ISSDM)"	$1,500,000 (2011-2016)	3
Description and overlap: The ISSDM is a joint educational research collaboration with LANL to educate and engage faculty and students in strategic problems of interest to LANL and DOE/NNSA, to retain and revitalize existing staff at LANL, and to identify and facilitate collaborative research opportunities between LANL and UCSC. No overlap		
PENDING SUPPORT		
DOE: "Science‑driven Data Management for multi‑tiered storage" (ORNL lead, this proposal)	$480,0000 (2016-2019)	3.6 Year 1 3.4 Year 2 3.1 Year 3
Description and overlap: The project's objective is to reduce the time to knowledge, not just for a single application, but for the entire workload in a multi-user environment, where the storage is shared among users. We achieve this goal by allowing selectable data quality, by trading its accuracy and error in order to meet the time or resource constraint. No overlap.		
DOE: "New Access Methods for Large Scientific Data Sets: From Databases to Object Stores" (JHU lead)	$450,000 (2016-2019)	2.4
Description and overlap: The project's mission is to bridge the gap between structured analysis techniques based on generalized and extended scientific databases and programmable object storage. No overlap.		

DOE: "Lightweight Ensembles of In-system Object Stores (LEIOS)" (LLNL lead)	$450,000 (2016-2019)	2.4

Description and overlap: In this project we propose to develop the underlying infrastructure for a software-defined storage system (LEIOS) that will support the lightweight dynamic creation and management of ensembles of small, in-system object stores. No overlap.

NSF: "Big Weather Web: A common and sustainable big data infrastructure in support of weather prediction research and education in universities (UCSC lead) (recommended for funding)	$855,000 (2015-2018)	1.9 Year 1 2.4 Year 2 2.4 Year 3

Description and overlap: The goal of the project is to make in-house IT infrastructure for the numerical weather prediction community affordable by combining the application of three recent technologies: virtualization, federated smart storage, and big data management. No overlap.