**Coupling Approaches for Next Generation Architectures (CANGA)**

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**On behalf of CANGA SciDAC team**

**Abstract**

The CANGA SciDAC project is investigating new algorithmic and computational approaches for coupling processes and components in Earth System Models like E3SM. Asynchronous Many-Task (AMT) models have advantages for managing complexity, load balancing and fault tolerance in coupled Earth System Models. In addition, they permit a coupling of sub-components at the process level rather than coupling large components. We will present some preliminary results from our exploration of these systems. In addition, we will describe some algorithmic improvements in both the remapping of fields and in how we advance a coupled system in time in a stable and accurate manner.