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GULF COAST ACADEMIC SUPERCOMPUTING

EVOLVING OPENMP TOWARD PETASCALE PLATFORMS

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This talk will introduce ongoing work in the eXtreme OpenMP project at the University of Houston funded by NSF. In this project, we are exploring new language features and compiler support to enhance OpenMP so that it can be used to program on petascale platforms, while keeping its ease-of-use feature. To accomplish this, we are working to augment the existing OpenMP programming interface to enhance its support for expression of the concurrency, data locality and synchronization within an application and to enable it to be used for parallel I/O. This talk will present our ideas for introducing data locality and task affinity into OpenMP as well as ongoing implementation work.

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