

The Active Global Address Space

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The Active Global Address Space (AGAS) is a core element of ParalleX, a novel message-driven execution model developed by LSU's STELLAR research group at the Center of Computation and Technology. AGAS is a set of address resolution services designed to provide a hierarchal global address space that spans all computational resources involved in an instance of a ParalleX-compliant runtime system. AGAS is an extension of the Partitioned Global Address Space (PGAS) model employed in Co-Array Fortran, X10, Chapel and UPC. Unlike PGAS systems, AGAS supports the migration of global objects, to aid in the active load balancing of highly dynamic parallel scientific applications. This talk will focus on AGAS research at CCT in the year 2011. The utilization of said research in the High Performance ParalleX (HPX) implementation of the ParalleX execution model will also be discussed.