

CSE/Seminar Announcement

By: Alfred Park

Computational Science and Engineering

Date: [Friday, February 6, 2009](#)

Time: 2:00pm-3:00pm

Location: Klaus 2447

For more information please contact Dr. Richard Fujimoto;
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Title:

Parallel Discrete Event Simulation on Metacomputing Systems

Abstract:

Recent advances in distributed computing such as volunteer and desktop grid computing that aggregate loosely coupled resources have transformed the execution of certain computational workloads that, in the past, were reserved for processing on dedicated clusters. Parallel discrete event simulations have different requirements, such as time synchronization, than programs that can exploit loosely coupled resources. Consequently, these codes are typically run on tightly coupled machines providing the best opportunity for maximum speedup. However, these facilities *may* not be readily available to many users.

This talk explores the merging of these distinct computational domains involving the execution of parallel discrete event simulation across loosely coupled resources. A master/worker architecture is proposed for parallel discrete event simulation on metacomputing systems providing robust executions under a dynamic set of services with system-level support for fault tolerance, semi-automated client-directed load balancing, portability across heterogeneous machines, and the ability to run codes on idle or time-sharing clients without significant interaction by users. Results indicate that a master/worker approach utilizing loosely coupled resources is a viable means for high throughput parallel discrete event simulation by enhancing existing computational capacity or providing alternate execution capability for less time-critical codes.

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You are cordially invited to attend a reception that will follow the seminar to chat informally with faculty and students. Refreshments will be provided.