Speaker: Dr. Ken Kent  
University of Victoria

Title: Hardware/Software Co-Design of Virtual Machines

Date: Friday March 15, 2002

Time: 9:00 - 9:50 a.m.

Room: L950

Abstract:
Hardware/software co-design is a relatively new research area to facilitate the design of systems consisting of a microprocess or executing software, plus one or more semi-custom hardware components. Co-design methodologies, supported by computer aided design tools, are intended to give relief to designers struggling with the ad hoc divisions of hardware and software components and the inherent integration problems. Their purpose is to structure the design process, optimize the hardware/software partitioning task, and ease integration.

Virtual machines have become more prominent with the emergence of Java and with more platforms targeting virtual environments. With this trend the issue of execution performance has moved to the forefront of virtual machine research.

This talk will address the hardware/software co-design of virtual machines, specifically the Java virtual machine. Topics will include the partitioning of the virtual machine into hardware and software with the decisions encountered in the process; the design of each partition and the features it encompasses for the target environment; as well as the integration of the partitions together and their interactions. The implementation and testing of the co-design with several results of the virtual machines performance will be presented.

ALL ARE WELCOME