Title: Towards a High Performance Computing Economy

Presenter: Dr. Stan Ahalt, Executive Director of the Ohio Supercomputer Center

Abstract:

Economic forces will continue to shape High Performance Computing (HPC). It is clear that the US has reached a critical juncture with regard to HPC, and the central challenge will be to sustain sources of funding so that our leadership position in HPC is sustained. However, another view of this challenge might be more illuminating: can HPC be realistically viewed as one of the critical economic drivers for our future? Is this view of HPC realistic? Is it realizable? And if HPC is one of a relatively small number of critical economic differentiators, what level of national investment in HPC is justified by its economic potential?

I will try to answer these questions through field interviews, anecdotes, and statistics on the current state of HPC. I argue that a fundamental addition to the HPC market - the addition of "blue collar" computing - needs to take place in order to revitalize U.S leadership in computational science, engineering and product design.

Biography:

Dr. Stanley C. Ahalt was appointed Executive Director of the Ohio Supercomputer Center (OSC) on July 1, 2003. OSC provides reliable high performance computing and networking infrastructure for a diverse statewide regional community that includes education, academic research, industry, and state government. Dr. Ahalt is also the academic lead for Signal and Image Processing (SIP) in the Department of Defense (DoD) High Performance Computing Modernization Office's Programming Environment and Training (HPCMO PET) initiative. He is also a participant in the DARPA HPCS program. His research expertise lies in signal processing, data compression, and neural networks, specifically in the use of high performance computing for these applications. Dr. Ahalt has published more than 100 archival journal articles, conference papers, and book chapters, and has served as an Associate Editor for the IEEE Transactions on Neural Networks. He is a member of the Council on Competitiveness HPC Advisory Committee.

Dr. Ahalt has been a Professor in the Department of Electrical and Computer Engineering at The Ohio State University (OSU). He received the 1997 OSU Lumley Research Award and the 1999 OSU College of Engineering Research Award.

Prior to joining OSU, Dr. Ahalt worked at Bell Telephone Laboratories where he developed industrial data products. He received his BS and MS degrees in electrical engineering from Virginia Tech and his Ph.D. in electrical and computer engineering from Clemson University in 1986, and was elected to Tau Beta Pi and Eta Kappa Nu.