DIRECTOR OF R&D STRATEGY
MATHEMATICS AND COMPUTING TECHNOLOGY
BOEING
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October 8, 2001

Dr. Ken Kennedy
Ann and John Doerr Professor of Computational Engineering
Director, Center for High Performance Software
Rice University, MS-41
6100 Main Street
Houston, Texas 77005

BOEING

Dear Dr. Kennedy,

The historical scientific interest in parallel computing has always been strong. However, with the demise of main frames and the central supercomputer, a renewed interest in distributed and parallel computing has emerged. This interest has gone well beyond the historical borders of academia and select Government labs, and has become a necessity for competitive industrial science. Thanks to you and many of your research colleagues, much progress has been made through research and technology transfer to facilitate the broad use of parallel and distributed computing by application developers. Initially the early parallel supercomputers were only usable by computer scientists. Today a variety of development tools, environments, optimizing compilers and libraries exist to aid the engineer and computational scientist in the use of parallel and clustered computing. Today, however, significant challenges remain in the effective and efficient use of the emerging computational grids.

Boeing, a global company, has significant distributed computational resources and large complex simulation needs as well. With computing assets in 27 states, and world wide research centers, the need to effective utilize computing resources, and (as required) to aggregate these resources to solve competitive problems, Boeing has a renewed and keen interest in tools to aid in distributed grid/parallel computing. As we understand your Center for Grid Application Development Software (CGrADS), this research will attempt to address the major problem that will impede the progress of grid computing – Programming. We in industry must have the programming tools, run-time libraries, development environments, and educational materials that will simplify grid development and make it useable by application engineers and scientists. We also understand that the broad team you have assembled will consider programming in the context of complex issues involving security, dynamic resource allocation, and administrative implementation issues of which we are keenly interested.

As appropriate, it is our intention to support your Center by participation in its Industrial Advisory Board, as well as "in-kind" technical support through participation of our researchers investigating our internal grid effort through technical exchanges, benchmarks, and tests of relevant Boeing applications using CGrADS prototype tools and libraries. We strongly support the CGrADS research program and look forward to our industrial partnership with your outstanding national research team in addressing the research challenges of grid computing.

Sincerely,

Dr. Kenneth W. Neves
Senior Technical Fellow &
Director of R&D Strategy