
Kirk E. Jordan
**A Glimpse at IBMs Blue Gene/Q System and
Implications for Applications and Solvers such as
Multigrid**

1 Rogers Street
Cambridge
MA 02142
kjordan@us.ibm.com

High performance computing (hpc) is a tool frequently used to understand complex problems in numerous areas such as aerospace, biology, climate modeling and energy. Scientists and engineers working on problems in these and other areas demand ever increasing compute power for their problems. In order to satisfy the demand for increase performance to achieve breakthrough science and engineering, we turn to parallelism through large systems with multi-core chips. Over the next year, IBM will be deploying its next generation Blue Gene/Q system. This talk will give a glimpse into the Blue Gene/Q system with some preliminary results on the initial Blue Gene/Q prototype system. I will comment on what the Blue Gene/Q might mean for applications and solvers. This will include possibly looking at Multigrid in a new light. I will comment on potential trade-offs that may be encountered on a system such as the Blue Gene/Q that will need to be investigated. There is tremendous potential with this new system but new approaches may be needed to take full advantage of this potential and follow on systems as we move ever closer to Exascale.