International Journal of Computing Algorithm, *Vol 4(2), December 2015*
ISSN(Print):2278-2397

Developing and Porting Multi-Grid Solver for CFD Application on Intel-MIC platform

Hitesh P.Kahale[1] , Rekha Kulkarni[1], Vikas Kumar[2]

[1] Department of Computer Engineering, PICT, Pune-411043, India
[2]CAE Group, CDAC, Pune-411007, India

Abstract

This paper presents an implementation of one dimensional Burgers equation using implicit method with Intel Xeon Phi Coprocessor. In particular, we used MAGMA MIC library which is an open source high performance library for solving a systems of non-linear equations. Further for high performance computation we consider offload mode as the primary mode of operation for Intel Xeon phi coprocessor. The result obtained from implicit scheme is then compared with the exact values and it's seen that the results obtained are approximate and reliable. The result table showed that the proposed scheme achieved higher performance on Intel MIC platform