

A Survey of MPI Related Debuggers and Tools

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Abstract

Message Passing Interface is a widely used standard in the High Performance and Scientific Computing Community for writing programs that can exploit the capability of parallel platforms. However, the inherent complexity and the size of the communication standard have made it difficult for programmers to use it efficiently and more importantly *correctly*. There are numerous tools and debuggers written by various academic/industry communities to find bugs in the MPI programs written by users. Some of them are MPI-CHECK (Iowa state Univ), MPIDD (UNBC, Canada), UMPIRE (LLNL), Intel Message Checker (Intel), MARMOT (HLRS) and TotalView (TotalView Technologies). A brief analysis and comparison of these tools are presented below. In addition, this report presents an overview of the debugging support build into some of the currently popular MPI libraries.