Coarrays on HPC: A Path to Parallel Discrete Event Simulation?

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Abstract

Coarrays are a tool to help Fortran programmers write efficient parallel code. The idea is to place the onus of the intricacies of parallel communication onto the compiler writers, leaving programmers to focus on scientific computation and methods. This paper addresses basic questions of how methods for parallel discrete event simulation might be expressed on HPC using coarrays.

Contents

1 Introduction

1.1 Overview of the Problem

This subsection provides a detailed description of the problem or challenge being addressed in this project.

1.2 The Promise of Coarrays

Portability of performance. Can a human do better? References: [8, 9], ([6, 1, 5]) as well as the invaluable language reference guide [7].

While we have been witness to anecdotal discusses about the performance portability of coarrays. We certainly believe that there are human programmers skilled enough in MPI who can craft code which outperforms a carry implementations

1.3 PDES

PDES references. ([2, 3, 4])

1.4 Methodology

This subsection describes the methodology or approach taken to address the problem and achieve the objectives.

2 Introduction

2.1 The Promise of Coarrays

2.2 B

Second subsection.

2.3 C

Third subsection.

References

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