A Preliminary Study of OpenFabrics Interface (OFI)

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Abstract

Open Fabrics Interfaces (OFI) is an open-source framework that provide efficient fabric communication services for parallel programs. The core component is the libfabric library which defines and exports the user-space API of OFI. The key design goal of OFI is to provide a good semantic match between the application and the underlying communication services. The lack of a good semantic match will result in an undesirable translation overhead when interfacing the application and the communication services. To achieve good scalability, it is critical that the communication overhead is as low as possible.

The goal of this project assignment is to study OFI with the aim of identifying strengths and potential weaknesses. Concretely, the student should conduct a literature study that compare OFI to related communication fabric APIs. If time permits, the student should quantify the overhead (in terms of number of instructions) of implementing key functions from the Open Symmetrical Hierarchical MEMory access (OpenSHMEM) API with OFI.

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2 Background

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5 Results

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