

OpenFabrics Interface and NanoMsg

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With the demand for more computing power and the widespread use of parallel and distributed computing, applications are looking for message-based transport solutions for fast, stateless communication. There are many solutions already available, with competing performances, but with varying APIs, making it difficult to support all of them. Trying to find a solution to this problem we decided to explore the combination of two complementing libraries : nanomsg and libfabric. The first one implements various scalability protocols (such as pair, publish-subscribe or push-pull) while the latter introduces the OpenFabrics Interfaces, a fabric communication service to high performance applications. This way, we managed to expose access to high-performance hardware, such as PSM, usNIC and VERBS with a simple API, close to unix sockets, with a minimal overhead.

In this paper we are going to present the technical details of our solution, a series of benchmarks to compare its performance to other solutions and our future plans.

Tertiary Keyword (Optional)

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Network systems and solutions

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