Remote File Access with Infiniband RDMA
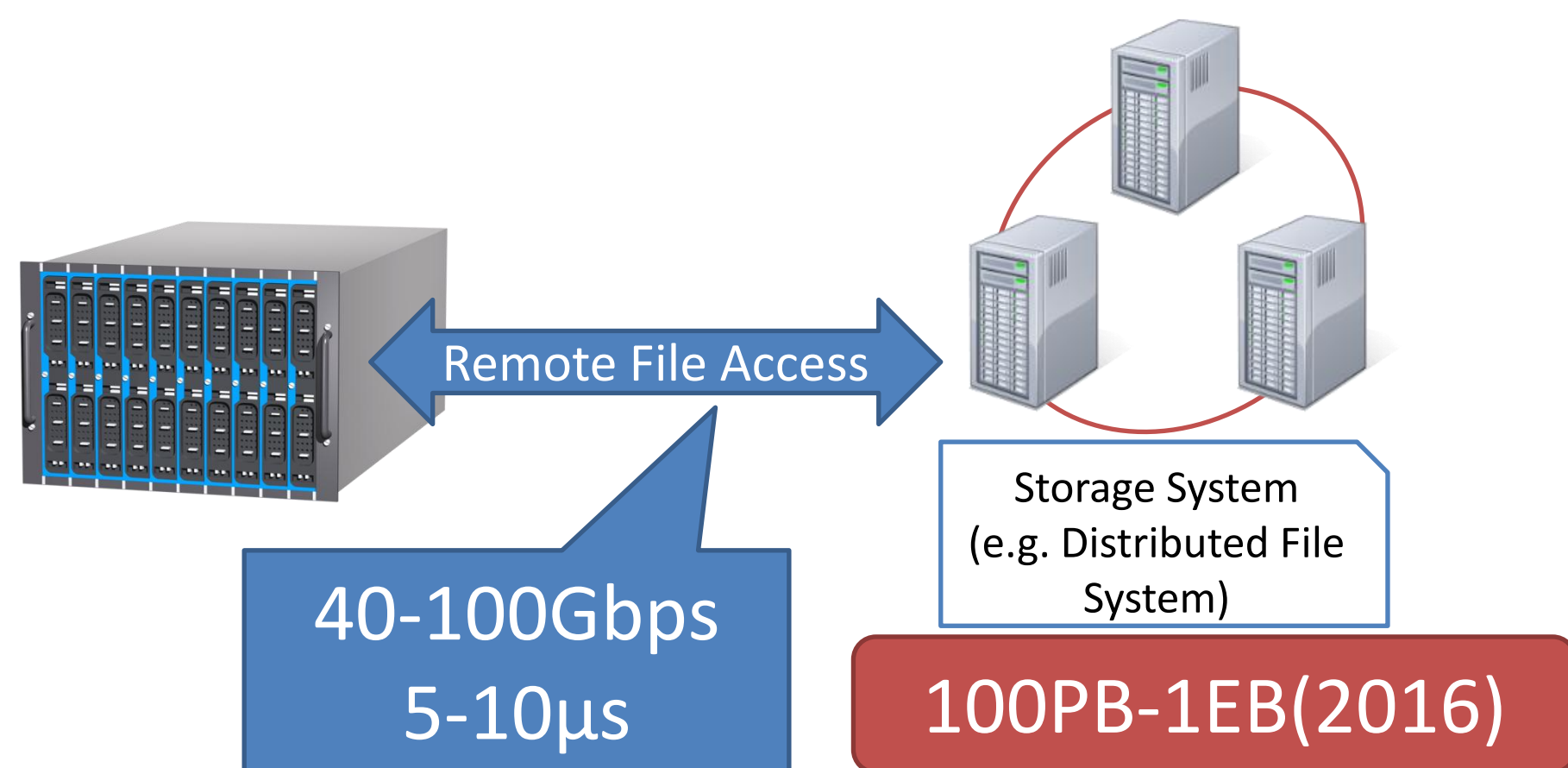
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Background

Remote File Access

40-100Gbps
5-10μs

Storage System
(e.g. Distributed File System)

100PB-1EB(2016)

Performance of the remote file access depends on these three factors:
- Access pattern
- Network delay
- Network bandwidth

This poster describes how to improve the performance of remote file access by using Infiniband RDMA transfer.
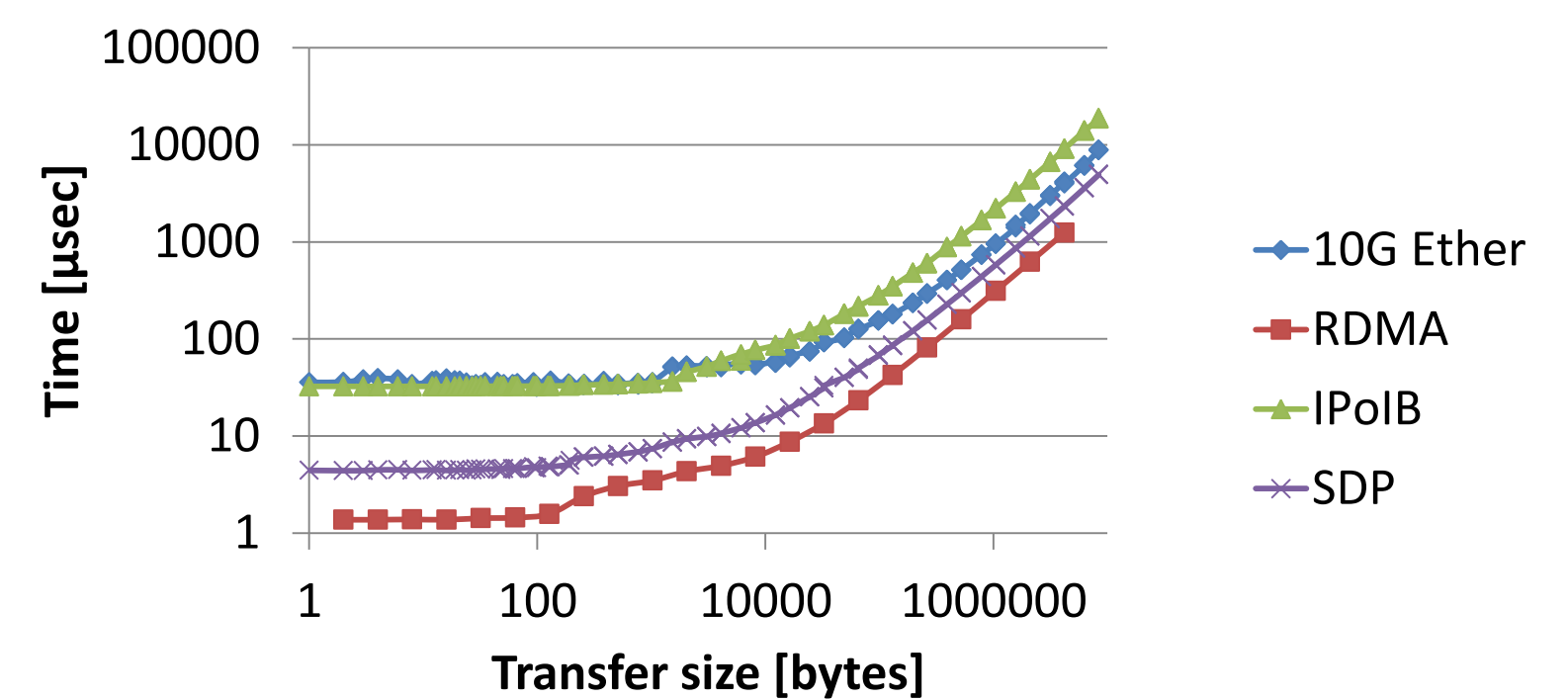
Infiniband QDR Network

Latency and bandwidth
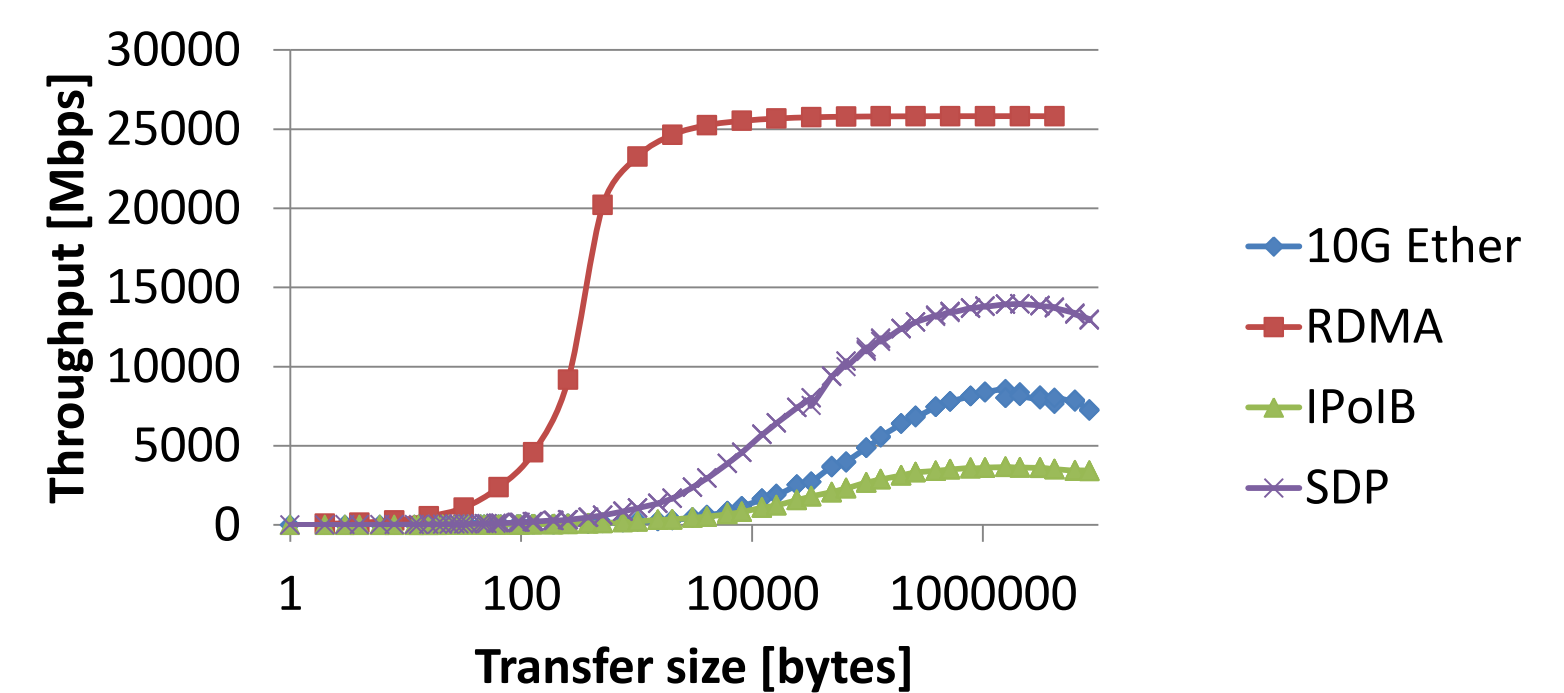

Fig.1 Latency

Fig.2 Throughput

RDMA reduces network latency and enhances throughput .
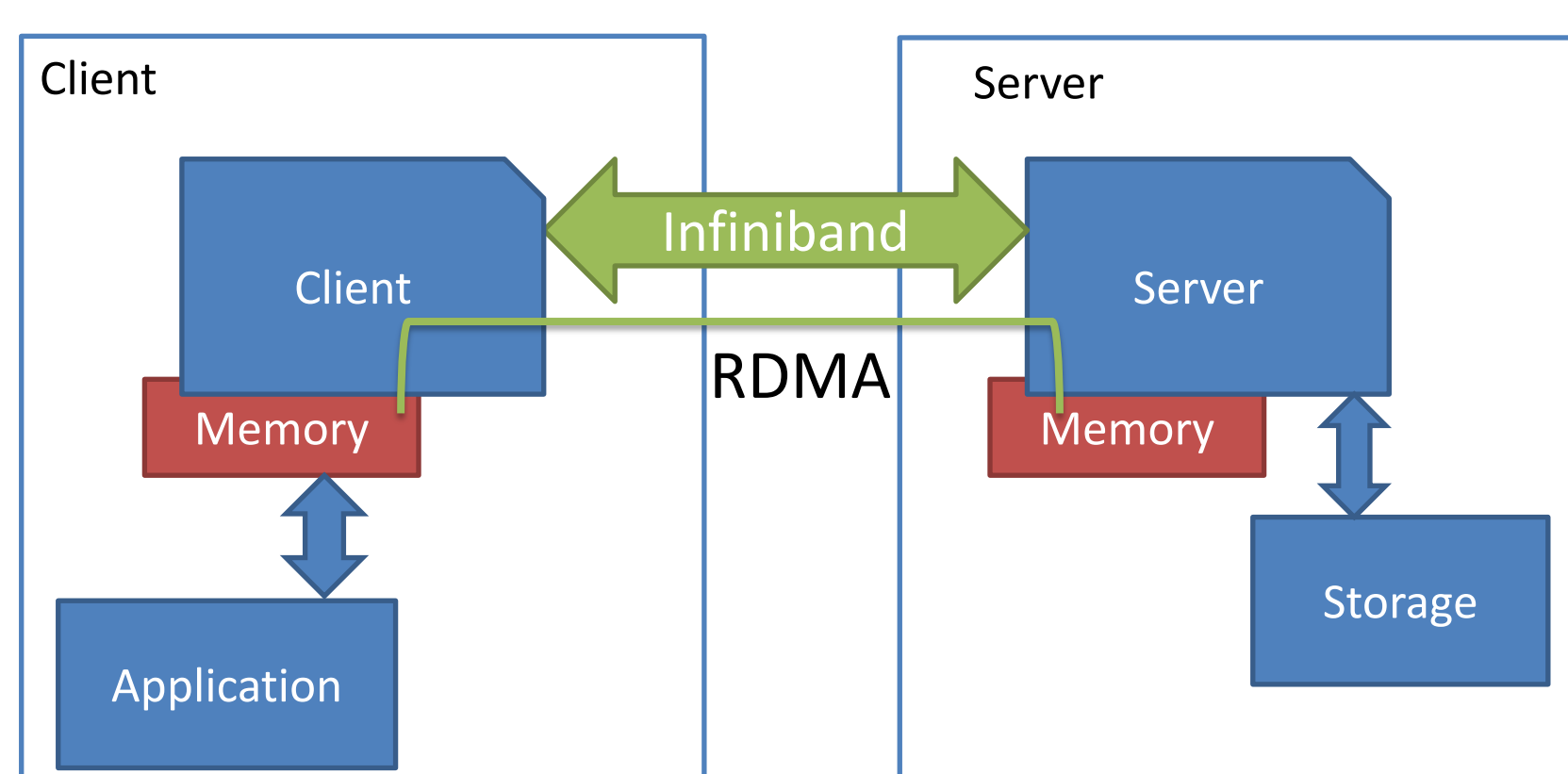
Infiniband RDMA Transfer
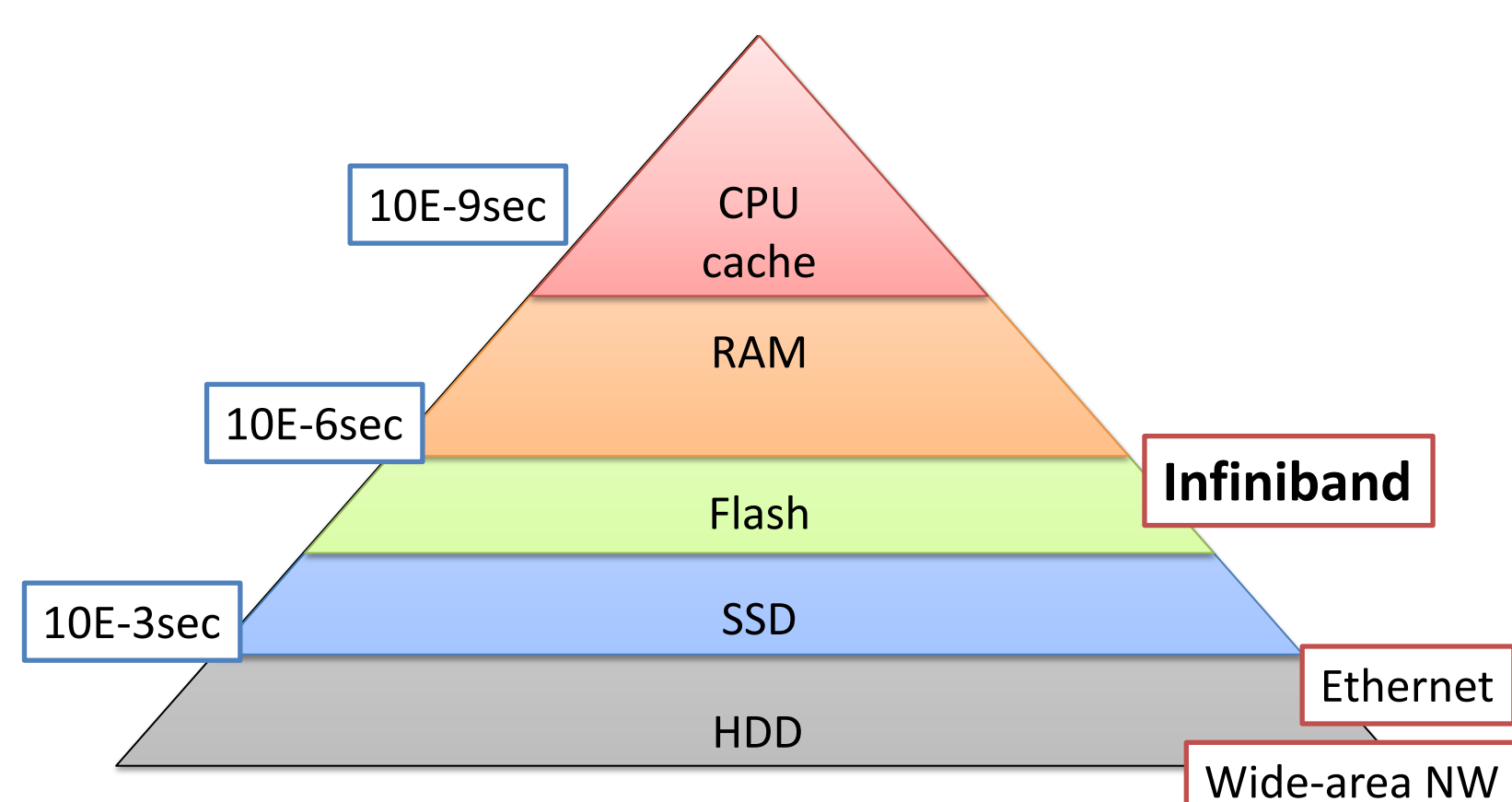

Fig.3 Remote file access with RDMA

Fig.4 Memory hierarchy versus network bandwidth/latency
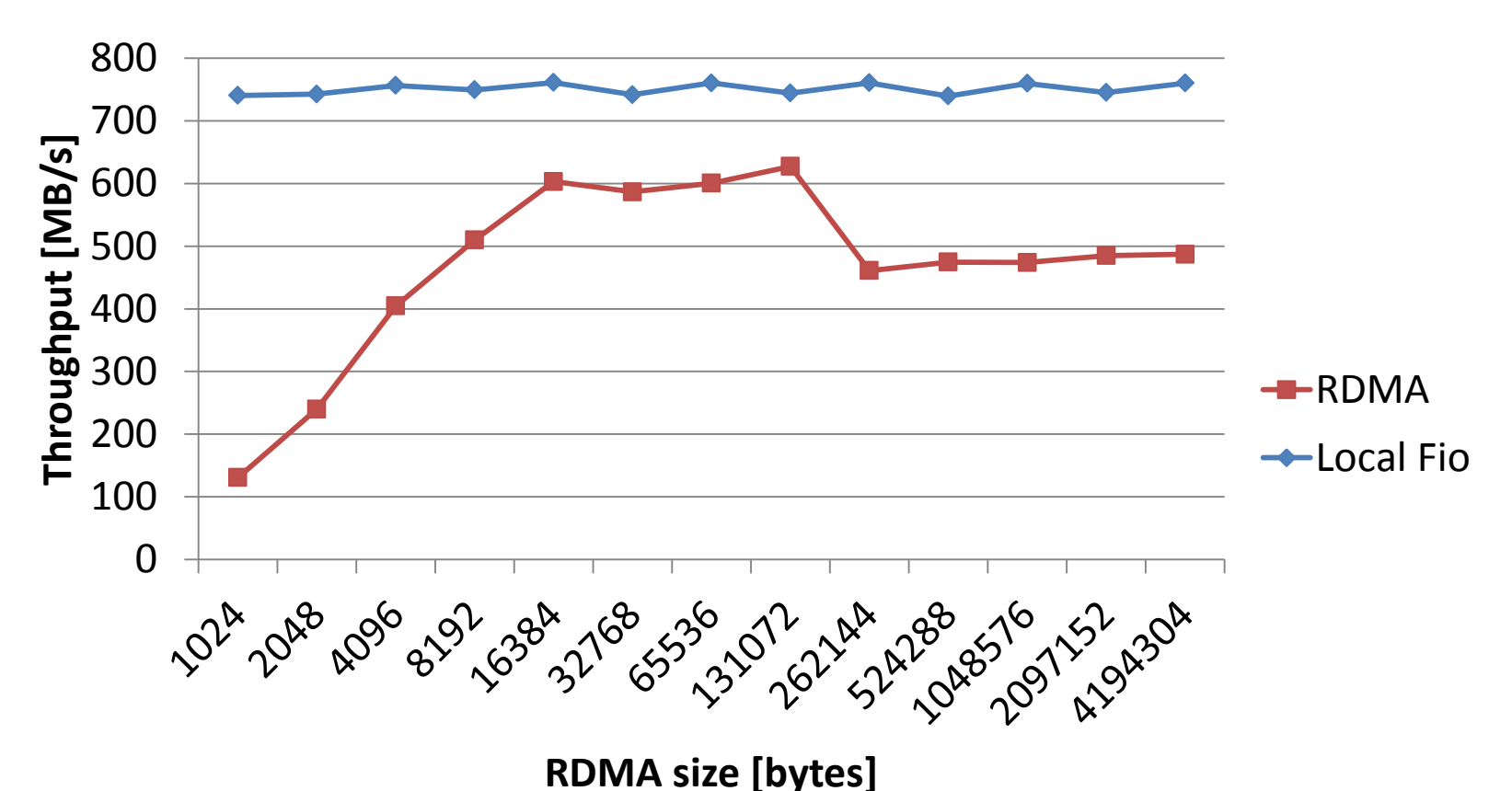
Evaluation

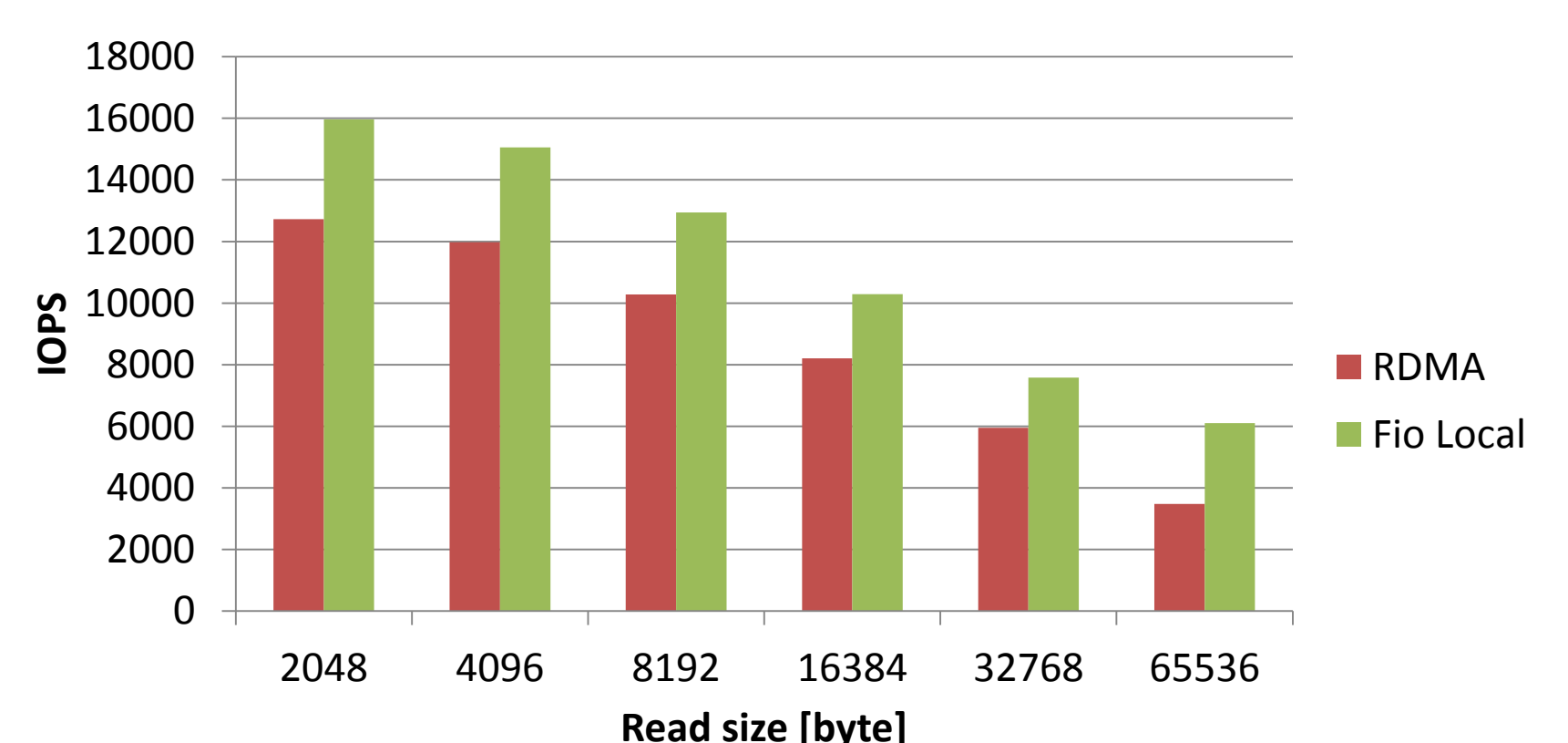Fig.5 Performance comparison of remote file access(RDMA, Local Fusion-io ioDrive)

Fig.5 IOPS evaluation of stride access