

1 Bandwidth

Here is the bandwidth for thread 0 and 1 with different size of message.

Table 1: Bandwidth

| Size | thread 0 bandwidth | thread 1 bandwidth |
|------|--------------------|--------------------|
| 32 | 168.698517 | 168.421053 |
| 256 | 976.4004777 | 977.565632 |
| 512 | 1473.381295 | 1472.057502 |
| 1024 | 2184.533333 | 2185.990660 |
| 2048 | 3128.210024 | 3126.717557 |

2 The difference for process 0 and process 1

For process 0, it first sends message to process 1 and then receives message from process 1, while for process 1, it first receives message from process 0 and then sends message to process 0. That is a good way to prevent deadlock. The process will always send the next message after receiving the previous message for the other process.