Communication time (us)

Message size (bytes)

MPI Allgather64

AMPI Allgather64
Communication time (us) vs Message size (bytes) for MPI Allreduce1024 and AMPI Allreduce1024.
Communication time (us) vs Message size (bytes)

- MPI Allreduce4 (red line)
- AMPI Allreduce4 (green line)

The graph shows the communication time in microseconds (us) for different message sizes in bytes. The x-axis represents the message size in bytes, ranging from 16 to 4 MB. The y-axis represents the communication time, which increases as the message size increases. The MPI Allreduce4 method shows a consistent increase in communication time, while the AMPI Allreduce4 method exhibits a more pronounced increase, especially as the message size approaches 1 MB and beyond.
Communication time (us) vs Message size (bytes)

- MPI Allreduce8 (red line)
- AMPI Allreduce8 (green line)
Communication time (us)

Message size (bytes)

- MPI Exchange2048
- AMPI Exchange2048
Communication time (us)

Message size (bytes)

MPI Reduce_scatter1024

AMPI Reduce_scatter1024
Communication time (us) vs. Message size (bytes) for MPI Reduce_scatter2 and AMPI Reduce_scatter2.
![Graph showing communication time (us) vs message size (bytes) for MPI Sendrecv2 and AMPI Sendrecv2.

- **Y-axis:** Communication time (us)
- **X-axis:** Message size (bytes)

The graph compares the performance of MPI Sendrecv2 and AMPI Sendrecv2. The communication time increases with the message size, and AMPI Sendrecv2 generally exhibits lower communication times compared to MPI Sendrecv2.}
Communication time (us) vs Message size (bytes) for MPI Sendrecv4 and AMPI Sendrecv4.
Communication time (us) vs Message size (bytes)

- **MPI Sendrecv64** (red line)
- **AMPI Sendrecv64** (green line)

The graph shows the performance of MPI Sendrecv64 and AMPI Sendrecv64 with respect to message size (bytes) and communication time (us). The x-axis represents the message size in bytes, ranging from 1 to 4MB, while the y-axis represents the communication time in microseconds (us).

- **MPI Sendrecv64** consistently has a higher communication time compared to **AMPI Sendrecv64** across all message sizes.
- **AMPI Sendrecv64** shows a more linear increase in communication time with increasing message size, whereas **MPI Sendrecv64** shows a more pronounced increase especially at larger message sizes.