

## Measuring performance of a communication network

- bandwidth: capacity of communication medium (Mb/s)
- latency: time to send message with no payload (or trivial payload)
- ping pong

## `mpi_all_reduce`

Same as `mpi_reduce` but the answer will be on all processors, not just 1

Rules for using collective routines

- A correct, portable MPI program must invoke collective and point-to-point subroutines so that no deadlock will occur even if the collective routines are synchronized. This implies that collective and point-to-point routines must be executed in the same order on each processor in the communicator.