

Slide 1

Administrivia

- Reminder – Homework 1 due today; turn in by e-mail.

Slide 2

Message Passing with MPI, Review/Recap

- Simplest form of message-passing is blocking point-to-point (`MPI_Send`, `MPI_Recv`).
- Collective communication functions encapsulate frequently-used operations involving all processes (or all within a communicator) — e.g., `MPI_Bcast`, `MPI_Reduce`.

Using MPI Tags

- One parameter to `MPI_Send`, `MPI_Recv` is a “tag”. Can be used as a way to distinguish among messages, selectively receive, etc.
- Example — simplified master/worker program (`master-worker.c` on sample programs page).

Slide 3

Basic idea — one or more “worker” processes that do the desired computation, plus a “master” that assigns them work.

Overlapping Computation and Communication

- If there's useful work a process can be doing while waiting for a message to arrive, can use other forms of send/receive:

Asynchronous communication — `MPI_Isend` and `MPI_Irecv` (plus `MPI_Wait`).

Persistent communication — `MPI_Send_init` and `MPI_Recv_init` to set up, then `MPI_Start` and `MPI_Wait`.

- Example — `exchange.c`, etc., on sample programs page.

Slide 4

Minute Essay

- What did you find most difficult about Homework 1? What did you find most interesting?

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