Live Lecture Chat Window
May 29, 2024

14:21:14 What if the array cannot be broken into equal pieces [for a scatter]?

You pad the array so that it can be broken into same-sized pieces.

14:23:07 So, with MPI_Scatter, does the 'boss' processor get a part of the task sent to it?

Yes.

14:38:31 I'm a bit confused with how one might use MPI_Reduce. How would one, say, do a reduction with an array of 12 elements into a single value? Where do you put the array?

Each processor sums into a PartialSum value and then all the PartialSum values get returned and summed into the GlobalSum.

14:42:47 So PartialSum is always a single value?

Doesn't have to be. That's why there is a #elements argument there. For example, it you were reducing an X array and a Y array at the same time, the PartialSum could be a 2-element array.

14:46:10 How long has MPI been in existence in this form?

Just checked WikiPedia. Work started in the summer of 1991. For more information, see:
https://en.wikipedia.org/wiki/Message_Passing_Interface
Looks like a pretty interesting history.

14:47:11 How do MPI_Barriers work? Can you assign a barrier as 'Barrier A' or is it based on each processor hitting that line in the code?

My understanding is that it is doing a count of how many processors have called MPI_Barrier( ). As each calls MPI_Barrier( ), it freezes. Once the count reaches the number of processors, they all un-freeze.

15:05:57 It [Project #7] has to be in the dgx right?

The "DGX" is the name of the *GPU* cluster. You will use the *CPU* cluster, which you get at through the submit-* machines, just like you did when you used the DGX.

15:06:00 We can make the tags whatever is useful to us, correct?

Yes – just be sure that sending and receiving use the same tags.

15:21:37 The optimal processor number [Compute:Communicate notes] will grow with data size, right?

Correct.