Lecture 15: MPI

CS178: Programming Parallel and Distributed Systems
March 21, 2001
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I. Overview
   A. Last time we looked at a simple MPI example
   B. This time let's look at a more complex one

II. The problem
   A. Partial differential equations (Poisson process)
      1. Using Jacobi iterators
   B. Approximate using discrete points
   C. This actually sets up a system of equations

III. Overall solution
   A. Arrays in C/C++, Array class
   B. Linear solver -- approximation process

IV. Splitting the problem up for MPI
   A. Strips first
      1. Show overlapping arrays
      2. Multiple passes to get data back and forth
   B. Setting up an embedding
   C. The actual implementation