This tutorial covers how to write a parallel program to calculate π using the Monte Carlo method with MPI and OpenMP

Brian Smith Seperate out examples from exercises in makefile 900738c · 6 years ago

Makefile	Seperate out examples from exercises…	6 years ago
README.md	Update README.md	10 years ago
mpiNBreducepi.c	Add a nonblocking reduce example	6 years ago
mpiSRnbpi.c	nonblocking SR example	6 years ago
mpiSRpi-noverp.c	Some stub example exercises for niter…	6 years ago
mpiSRpi.c	General re-write to fix some bugs in pr…	6 years ago
mpiomp.c	Fixed compiler issue with missing sem…	11 years ago
mpireduce-noverp.c	Some stub example exercises for niter…	6 years ago
mpireducepi.c	No need to reduce iterations. Also add…	6 years ago
mpisubmit.pbs	Update mpisubmit.pbs	10 years ago
omppi.c	Fixed compiler issue with missing sem…	11 years ago
serialpi.c	Update serialpi.c	11 years ago
submit.pbs	Update submit.pbs	10 years ago

README

Serial to Parallel: A Monte Carlo Operation

This tutorial covers how to write a parallel program to calculate π using the Monte Carlo method with MPI and OpenMP.

####Compiling and Running Before you start, you will need to edit the submit scripts (submit.pbs and mpisubmit.pbs) and the Makefile and replace with the correct project ID. Once done, you need to load the PGI programming environment

```
module load PrgEnv-pgi
```

To compile and submit the serial version, you need to run: `make serial`

- For the MPI_Reduce verion: `make mpi`
- For the MPI Send/Recv verion: `make mpisr`
- For the OpenMP version: `make omp`
- For the hybrid OpenMP/MPI version: `make mpiomp`

The output should look something like:

```
Wed Sep 18 11:02:27 EDT 2013
Pi: 3.140800
Application 3587838 resources: utime ~0s, stime ~0s, Rss ~3444, inblocks ~4534, outblocks
~11970
```

The tutorial from which this code is from can be found on the OLCF website at:
https://www.olcf.ornl.gov/tutorials/monte-carlo-pi/

Releases

No releases published

Packages

No packages published

Languages