Concurrency & Parallel Programming

MPI

Auteurs: Tom Peerdeman & René Aparicio Saez

Datum: 09-11-2012

1 Assignment 2.1 - Wave simulation

1.1 Table with results

Tests on DAS4 are run for i = 1.000.000 and t = 1.000. Measurements are done with 8 nodes and 1 process on each node. 1 node with 8 processes on the node. And finally 8 nodes with 8 processes each. Each measurement is run 12 times. The highest value and the lowest value are disregarded.

i = 1,000,000		t = 1,000
1 node with 8 processes	8 nodes with 1 proces each	8 nodes with 8 processes each
~~1.72071~~	0.499236	0.119181
1.22258	0.495219	~~0.116725~~
1.38375	~~0.495014~~	0.119682
0.851386	0.49582	0.121414
0.932281	0.495152	0.119064
1.02867	0.495158	0.119373
1.31722	0.49516	0.119355
1.39341	0.495073	0.121163
1.16325	~~0.499252~~	0.1189
~~0.696113~~	0.495062	0.120271
1.40915	0.495312	0.123
1.16556	0.495146	~~0.12473~~
Average of the remaining 10:		
1.1867257	0.4956338	0.1201403

If the results using MPI are compared to results using pThreads we can see clearly that MPI is quicker when more nodes are used (and a same amount of cores as with pThreads).

Average with a total of 8 processes		
1 node, 8 processes	8 nodes, 1 process each	8 pThreads
1.1867257	0.4956338	0.6777506

Tom Peerdeman - 10266186 René Aparicio Saéz - 10214054