Technische Universität München

Assignment 3: MPI Point-to-Point and One-Sided Communication

Programming of Super Computers

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Team 12

December 12, 2015

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1

Contents

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3

ТUΠ

Cannon's algorithm

- explain algorithm
- provided implementation

Baseline

Challenges in getting an accurate baseline and changes to the Load-Leveler
batch script.

Scalability

- Compute time scalability with fixed 64 processes and varying size of input files.
- MPI time scalability with fixed 64 processes and varying size of input files.
- Differences in scalability between the Sandy Bridge and Haswell architectures.

ТЛП

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7

MPI Non-Blocking Operations

- Which non-blocking operations were used?

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8

Optimizations

- Was communication and computation overlap achieved?
- What is the theoretical maximum overlap that can be achieved? Explain.

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9

Scaling

- Was a speedup observed versus the baseline?
- Were there any differences between Sandy Bridge and Haswell nodes?

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10

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11

MPI One-Sided Operations

- Which one-sided operations were used?

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12

Optimizations

- Was communication and computation overlap achieved?

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13

Scaling

- Was a speedup observed versus the baseline?
- Was a speedup observed versus the non-blocking version?
- Were there any differences between Sandy Bridge and Haswell nodes?