Big Lesson #4

The best approach to parallelizing your
problem will depend on both details of your
problem and of the hardware available.

Resources at SciNet

1. General Purpose Cluster (GPC)

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- 3780 nodes with two 2.53GHz quad-core Intel Xeon 5500 (*Nehalem*) x86-64 processors (30240 cores total)
- 16GB RAM per node
- Gigabit ethernet network on all nodes for management, disk I/O, boot, etc.
- InfiniBand network on 1/4 of the nodes only used for job communication
- 306 TFlops
- #16 on the June 2009 *TOP500* supercomputer sites
- #1 in Canada

Resources at SciNet

2. Tightly Coupled System (TCS)

Resources at SciNet

2. Tightly Coupled System (TCS)

- 104 nodes of 16 dual-core 4.7GHz Power 6 processors.
- 128GB RAM per node
- Interconnected by full non-blocking InfiniBand
- 62 TFlops
- #80 on the June 2009 *TOP500* supercomputer sites
- #3 in Canada

Resources at SciNet

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- 104 nodes of 16 dual-core 4.7GHz Power 6 processors.
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Access disabled by default. For access, email us explaining the nature of your work. Your application should scale well to over 32 procs.

Resources at SciNet

3. Accelerator Research Cluster (ARC)

Resources at SciNet

3. Accelerator Research Cluster (ARC)

8 GPU devel nodes and 4 NVIDIA Tesla M2070. Per node:

- 2 × quad-core Intel Xeon X5550 2.67GHz
- 48 GB RAM
- Interconnected by DDR InfiniBand
- 2 × GPUs with CUDA capability 2.0 (Fermi) each with 448 CUDA cores @ 1.15GHz and 6 GB of RAM.

Max. computing power CPUs: 683.52 GFlops
Max. computing power GPUs: 4.12 TFlops (single prec)
2.06 TFlops (double prec)

Access disabled by default.