# High Performance Computing

## Education
- Enable Students and Faculty to effectively use the HPC Resources (Mio, GPU, RA)
- Classes
- Workshops
- Tunes U
- Consulting
- Tech Fee for student resources

## Golden Energy Computing Organization
- RA.MINES.EDU
- 23 Tflops
- 2144 processing cores in 268 nodes

## BlueM
- Mines’ New Supercomputer
- AuN (Golden)
  - iDataPlex
  - Intel 8x2 core SandyBridge
    - 144 Nodes
    - 2,304 Cores
    - 9,216 Gbytes
    - 50 Tflops
- MC2 (Energy)
  - Blue Gene Q
  - PowerPC A2 17 Core
    - 512 Nodes
    - 8,192 Cores
    - 8,192 Gbytes
    - 104 Tflops

## MIO nodes for general parallel applications
- Nvidia Tesla for GPU computing

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## MIO.MINES.EDU
- Super Computing Power
- Personal Access
- 19.74 CPU T flop
- 7.23 GPU T flop
- and Growing

- Mio is a shared resource funded in part by the CSM Administration
- Mio nodes are purchased with money from individual researchers.
- Currently 14 research projects
- 1392 cores, 104 dedicated to students

## Blue Gene Q
- 104 Tflops
- 8,192 Gbytes
- 50 Cores

## NVIDIA
- CUDA

## IBM dual architecture
- Two Distinct Compute Units
  - iDataPlex
  - Blue Gene Q

## Best of both worlds
- Shared 480 Tbyte File System
- Compact
- Low Power Consumption