

The Year 2010

- NASA mission to investigate Jupiter "monolith"
- Longhorns finally beat Sooners
- Arnold Schwarzenegger is President
(Article II, Section 1 repealed in 2008)
- Application classes in high-perf. computing:
 - ◆ Life, Death, Games

Life Sciences

- Designer drugs, custom designed gene therapy, ...
- Floating point intensive
 - ◆ Molecular dynamics, protein folding
- Integer intensive
 - ◆ Gene sequence alignment, pattern discovery

Death Sciences (Scientific Computing)

- Weapons simulation
 - ◆ Transport phenomena
- "Scientific computing"
 - ◆ CFD, Crash analysis, ...



Games (and Entertainment)

- Games: Multiplayer, Adaptive, Dynamic synthesis, Generation
- Natural language analysis
 - ◆ Involves semantics, more than just recognition

Open Questions

- How do we improve *productivity*?
 - ◆ As opposed to raw performance?
- How do we make computing *On-Demand*?
 - ◆ Resilience, Fault tolerance, Adaptive, Autonomic