MIMD vs. SIMD

- MIMD = Multiple Instruction, Multiple Data
  - "traditional" parallel processing
  - N processors all doing their own thing

- SIMD = Singe Instruction, Multiple Data
  - All processors do exactly the same thing
  - Simple hardware

SIMD Issues

- Programming model???
- Instruction Distribution
- Communication
    - Network Topology
    - Deterministic vs. Dynamic

SIMD Papers

- Abacus
  - 1024 1-bit processors per die
  - 2D mesh
- CAM-8
  - lookup table computation
  - 3D mesh
- CM-2
  - 16 1-bit processors per die
  - Hypercube with local 16-way crossbars