Open64's Role in the Many Core Era

Fred Chow’s views

For serial programs:
- Runtime optimization becomes highly feasible

For threaded programs:
- Preserve optimization effectiveness in presence of threads

Promote threads in programming:
1. Automatic parallelization
   - limited to simple loops
2. Support language extensions or new languages
   - OpenMP
   - CUDA
   - OpenCL
   - UPC
   - CoArray Fortran
3. Performance analysis/advisory tools