Future Items

Planned Items for the x86 Open64 Compiler

- Continue to work on processor optimizations/tuning
- Continue to improve the vectorizer
- Improve (or fully utilize) alias analysis framework
- Improve OpenMP code generation
- Improve robustness of compiler (large applications, CPUv6, …)

Future Items

Planned Items for HP for Open64 Compiler

- CGSSA infrastructure and utilization
- WHIRL SSA Usage on new optimizations
- Optimization in the presence in threads
- C99 support FENV_ACCESS and complex support
- Sharing testing results with the community for test suites not yet available to community
- Compiler warnings clean up (what's the community effort in this area)
- Memory leaks cleanup(are other people using other memory leak detection tools)
- Building Linux kernel to improve quality and compatibility & share results

CGSSA Infrastructure and Utilization

- Objective
  - Build SSA on CGIR and provide a better “DU” manager to CG optimizations
- Overview design
  - A new CG_CFG derived from base cfg class
  - Register SSA
  - PHI as side data structure
  - Allow overlapping live ranges
- Utilization
  - Extend EBO to global peephole optimizer
  - GRA
  - …

Discuss: Planned Items by Open64 Community

- Plans to support the new C and C++ standards which are in final stage of approval
- Ensuring ongoing GCC compatibility
- Static analysis (intra and cross file)
- Runtime checks (uninitialized variables, array bounds, checks for multithreading)
- Multi-threading - Data race detection
- CPUv6
- OpenMP improvements, tools around OpenMP