x86 Open64 Compiler Suite

Quick Reference Guide to Optimization Flags

The x86 Open64 compiler system is a high performance, production quality code generation tool designed for high performance parallel computing workloads. The x86 Open64 environment provides the developer the essential choices when building and optimizing C, C++, and Fortran applications targeting 32-bit and 64-bit Linux® platforms.

The x86 Open64 compiler system offers a high level of advanced optimizations, multi-threading, and processor support that includes global optimization, vectorization, interprocedural analysis, feedback directed optimizations, loop transformations, and code generation which helps extract the optimal performance from each x86 processor core.

Flag	Purpose
-O2	Default optimization level; equivalent to "-O". Performs a set of extensive global optimizations.
-O3	"-O2" plus many more aggressive optimizations; in particular, "-O3" turns on LNO.
-Ofast	Expands into "-O3", "-OPT:Ofast", "-ipa", and a few other aggressive optimizations.
-LNO	Enables loop nest optimizations, including vectorization and generation of prefetch instructions.
-ipa	Performs interprocedural analysis and optimizations. Optimizes across function and file boundaries.
-fb-create -fb-opt	Turns on profile-guided (feedback-directed) optimizations. Requires separate compilations.
-apo	Enables automatic parallelization of loops.
-mso	Performs multi-core processor scalability optimizations. (Open64 Release 4.2.3 or later.)
-march	Generates instructions for specific processor type. Use "-march=barcelona" when targeting Quad-core AMD Opteron™ processors or later.
-mp	Turns on support for OpenMP (version 2.5).
-HP	Specifies the number of huge (2 MB) pages used for the bss, data, text, and heap segments. Note: this feature may not be available on all operating systems.

For more information, visit http://developer.amd.com/open64

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