Intel® Clang-based C++ Compiler

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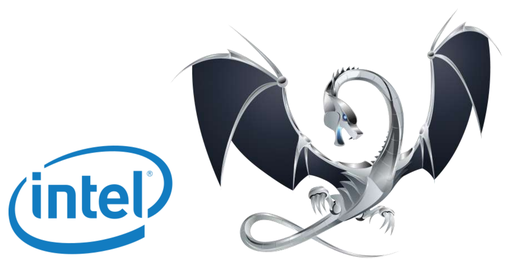
What is This?

New C++ compiler for Mac OS X*, combining Clang* C++ front-end with Intel compiler back-end

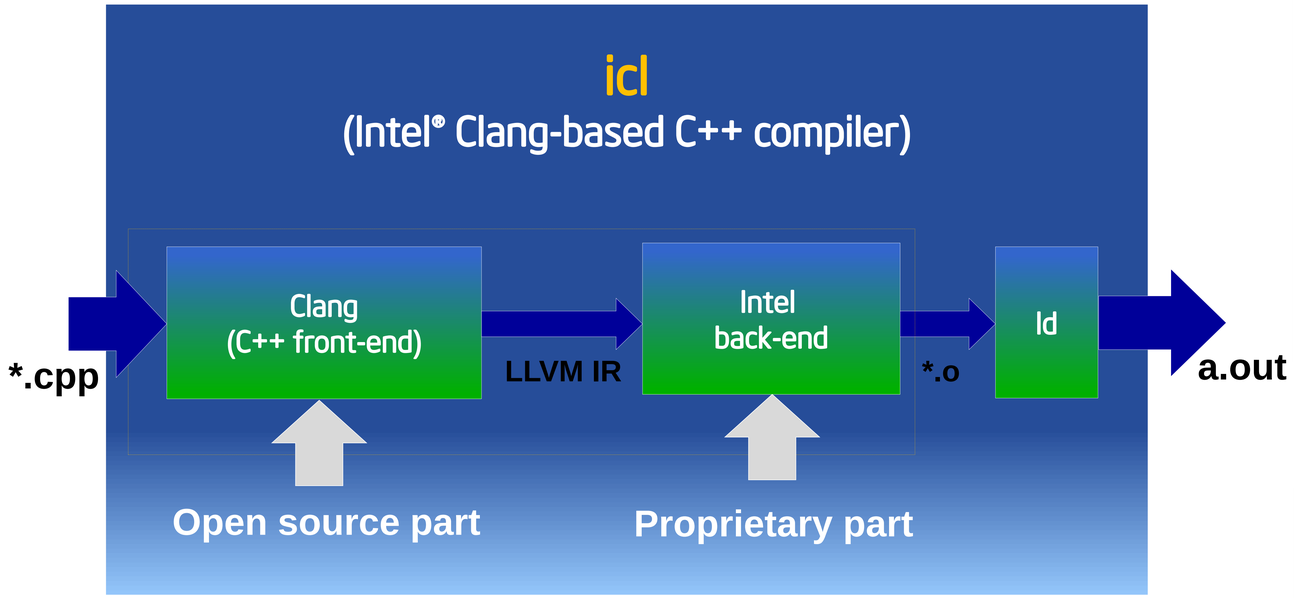
Best of Both

Extended Clang C++ front-end
- Full compatibility with clang
- C / C++ language support
- Expressive diagnostics
- Support for clang options

Intel compiler back-end
- Improved performance on IA-32/Intel64
- OpenMP* 4.0
- Cilk™ Plus
- Support for new IA instructions
- Intel-specific pragmas
- Same back-end as in icc
- Support for icc options



*Other names and brands may be claimed as the property of others.



How It Works

- icl passes user's *.c / *.cpp file to Clang front-end – exactly as "clang" does it
- Latest released Clang front-end, with some extensions (OpenMP 4.0, Cilk™ Plus, pragmas, intrinsics) is employed
- Clang front-end produces LLVM IR (in memory)
- LLVM IR got converted to Intel compiler IR
- Intel compiler back-end optimizes IR, produces object code

Performance

- On par with icc
- icc and icl employ the same IA-32/Intel64 back-end, known for performance
- For details, including benchmarks and comparisons with other compilers, see http://software.intel.com/en-us/intel-composer-xe

Availability

Intel® Composer XE 2015

Planned release Q3'2014

Beta is available **NOW!**

Open-Source Contributions

OpenMP 4.0
- Implementation available at clang-omp.github.com
- Upstreaming to clang trunk under way
- Including #pragma omp simd (for vectorizer)
- We need your code reviews!

Intel® OpenMP Runtime Library
- Open-sourced under BSD-like license
- Part of LLVM project: openmp.llvm.org
- Ported to ARM*, POWER*

Cilk™ Plus
- Implementation available at cilkplus.github.com
- Upstreaming to clang trunk is planned
- We welcome your feedback and contributions!

Optimization Notice

Optimization Notice

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