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

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!

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

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