CILK Plus

Paul Springer

Aachen Institute for Advanced Study in
Computational Engineering Science

Aachen, 05.06.14

Cilk Plus

- Extension to C/C++
- Task-level parallelism
  - Work stealing
- Data-level parallelism
- Available in Intel compilers
- GCC CILK Plus branch exists
- `http://www.cilkplus.org/cilk-plus-tutorial`

Array Notation

- Helps the compiler to efficiently vectorize the code
- Applicable if the order within a loop does not matter

Array Notation

RWTH AACHEN UNIVERSITY

Syntax

array-expression[lower-bound : length : stride]

- Default lower-bound: 0
- Default length: legth of the array (if known)
- Default stride: 1

#pragma simd

- User-mandated vectorization
- Similar to OpenMP
- All address calculations must be valid

Syntax

#pragma simd [clause[[,] clause] . . .]