

# A build system generator

- CMake is a <u>generator</u>: it generates <u>native</u> build systems files (Makefile, Ninja, IDE project files [XCode, CodeBlocks, Eclipse CDT, Codelite, Visual Studio, Sublime Text...], ...),
- CMake scripting language (declarative) is used to describe the build,
- The developer edits CMakeLists.txt, invokes CMake but should never edit the generated files,
- CMake may be (automatically) re-invoked by the build system,
- CMake has friends who may be very handy (CPack, CTest, CDash)



#### When do things take place?



#### When do things take place?



- CMake time: CMake is running & processing CMakeLists.txt
- 2 Build time: the build tool runs and invokes (at least) the compiler

#### When do things take place?



- CMake time: CMake is running & processing CMakeLists.txt
- <u>Build time</u>: the build tool runs and invokes (at least) the compiler
- Install time: the compiled binaries are installed i.e. from build area to an install location.

#### When do things take place?



- CMake time: CMake is running & processing CMakeLists.txt
- <u>Build time</u>: the build tool runs and invokes (at least) the compiler
- Install time: the compiled binaries are installed i.e. from build area to an install location.
- <u>CPack time</u>: CPack is running for building package

#### When do things take place?



- CMake time: CMake is running & processing CMakeLists.txt
- <u>Build time</u>: the build tool runs and invokes (at least) the compiler
- Install time: the compiled binaries are installed i.e. from build area to an install location.
- <u>CPack time</u>: CPack is running for building package
- **Solution** Package Install time: the package (from previous step) is installed

#### When do things take place?



CMakeLists.txt

Source files



















