Embed shell command `...`

file (GLOB_RECURSE INTERFACE_V8_OBJECTS $
{PROJECT_SOURCE_DIR}/package/interface_v8/*.cpp)
GetObjects(INTERFACE_V8_OBJECTS ...)
add_custom_command (
    ...
    COMMAND ${CMAKE_CXX_COMPILER} -shared … ../libcsim.so -Wl,--
start-group ${INTERFACE_V8_OBJECTS} ${AARCH64_INST_OBJECTS} ...
-Wl,--end-group
)

=> set (FIND_INTERFACE_V8_OBJECTS
 "`find;obj/interface_v8/CMakeFiles/interface_v8.dir/;-name;*.o|sed;':a\;N\;$!
ba\;s/\\n/\;/g'`")
add_custom_command (
    ...
    COMMAND ${CMAKE_CXX_COMPILER} -shared … ../libcsim.so -Wl,--
start-group ${FIND_INTERFACE_V8_OBJECTS} ${FIND_INST_OBJECTS} ...
-Wl,--end-group
)

AARCH64_INST_OBJECTS

add_executable (csim_v8 ${PROJECT_SOURCE_DIR}/src/main/main_v8.cpp)
target_link_libraries (csim_v8 ${AARCH64_INST_OBJECTS} $
{CSIM_NEEDED_LIBS} z)

=> add_executable (csim_v8 ${PROJECT_SOURCE_DIR}/src/main/main_v8.cpp $
{AARCH64_INST_CPP})   * too slow

=>
add_library(AARCH64_INST_OBJECTS OBJECT ${AARCH64_INST_CPP})
add_executable (csim_v8 ${PROJECT_SOURCE_DIR}/src/main/main_v8.cpp
$<TARGET_OBJECTS:AARCH64_INST_OBJECTS>)
                         * CMake 2.8.8 (sun glid 2.6.x)

Change link from shell command to library

set (CMAKE_LIBRARY_OUTPUT_DIRECTORY $
{CMAKE_CURRENT_BINARY_DIR}/..)
add_library (csim SHARED ${INTERFACE_V8_CPP} ${AARCH64_INST_CPP})
target_link_libraries (csim -shared -lz -export-dynamic -Wl,-noinhibit-exec -fPIC
-Wl,--start-group ${CSIM_NEEDED_LIBS} z -Wl,--end-group)

                                        * add 1min, original 4 min

=> add_library (csim SHARED ${INTERFACE_V8_CPP}
$<TARGET_OBJECTS:AARCH64_INST_OBJECTS>)

                                          * same

Performance (time make -j8)

- cmake -DBUILD_SHARED_LIB=CURRENT -DBUILD_EXE=CURRENT .
- time make -j8
- real 4m4.298s
-
- cmake -DBUILD_SHARED_LIB=SH_COMMAND -DBUILD_EXE=CURRENT .
- real 4m11.674s
-
- cmake -DBUILD_SHARED_LIB=ADD_LIBRARY_CPP -DBUILD_EXE=OBJECT .
- add_library (csim SHARED ${INTERFACE_V8_CPP} ${AARCH64_INST_CPP})
- real 5m4.017s
-
- cmake -DBUILD_SHARED_LIB=ADD_LIBRARY_OBECT -DBUILD_EXE=OBJECT .
- add_library(AARCH64_INST_OBJECTS OBJECT ${AARCH64_INST_CPP})
- add_library (csim SHARED ${INTERFACE_V8_CPP} $<TARGET_OBJECTS:AARCH64_INST_OBJECTS>)
- real 4m5.425s
-
- cmake -DBUILD_SHARED_LIB=ADD_LIBRARY -DBUILD_EXE=CPP .
- real 12m9.950s
- => Rebuild src/v8/aarch64/instruction/ for every exe file.

Ref

- http://lists.llvm.org/pipermail/llvm-dev/2015-February/082722.html

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Conclusion

- Leave the change to add_lib(... OBJECT ...) when sun-grid's cmake upgrade to 2.8.8 above.