

CrystaX NDK - Bug #1263

[clang][atomics] Clang can't compile call of `__atomic_add_fetch` with 64-bit argument for 32-bit targets

02/11/2016 05:39 PM - Dmitry Moskalchuk

Status:	Closed	Start date:	02/11/2016
Priority:	High	Due date:	
Assignee:	Dmitry Moskalchuk	% Done:	100%
Category:	toolchain	Estimated time:	0.00 hour
Target version:	11.0.0	Android version:	
CPU Architecture:	arm, mips, x86	CrystaX Version:	10.3.1
Host OS:			
Toolchain:	clang-3.6, clang-3.7		

Description

```
#include <atomic>
#include <stdint.h>
```

```
int main()
{
    std::atomic<uint64_t> a(0);
    return ++a == 1 ? 0 : 1;
}
```

This code compiles by gcc without any problems. However, clang fails to compile it for targets armeabi, x86 and mips (but compiles for armeabi-v7a and armeabi-v7a-hard, which are 32-bit too!):

```
$NDK/toolchains/llvm-3.7/prebuilt/linux-x86_64/bin/clang++ -MMD -MP -MF ./obj/local/x86/objs/test/test.o.d \
-gcc-toolchain $NDK/toolchains/x86-5/prebuilt/linux-x86_64 -target i686-none-linux-android \
-ffunction-sections -funwind-tables -fstack-protector-strong -fPIC \
-Wno-invalid-command-line-argument -Wno-unused-command-line-argument -no-canonical-prefixes -fno-exceptions -fno-rtti \
-O2 -g -DNDEBUG -fomit-frame-pointer -fstrict-aliasing \
-I$NDK/sources/cxx-stl/gnu-libstdc++/5/include \
-I$NDK/sources/cxx-stl/gnu-libstdc++/5/libs/x86/include \
-I$NDK/sources/cxx-stl/gnu-libstdc++/5/include/backward \
-Ijni \
-DANDROID -Wa,--noexecstack -Wformat -Werror=format-security \
-fPIE -fexceptions -frtti -Wall -Wextra -Werror -std=gnu++11 \
-c -I$NDK/sources/crystax/include -I$NDK/platforms/android-9/arch-x86/usr/include \
jni/test.cpp -o ./obj/local/x86/objs/test/test.o
```

In file included from jni/test.cpp:1:

In file included from \$NDK/sources/cxx-stl/gnu-libstdc++/5/include/atomic:41:

```
$NDK/sources/cxx-stl/gnu-libstdc++/5/include/bits/atomic_base.h:296:16: error: cannot compile this atomic library call yet
```

```
    { return __atomic_add_fetch(&_M_i, 1, memory_order_seq_cst); }
```

1 error generated.

History

#1 - 02/11/2016 05:39 PM - Dmitry Moskalchuk

- CPU Architecture arm added

#2 - 05/20/2016 10:25 PM - Dmitry Moskalchuk

- Description updated

#3 - 05/20/2016 10:40 PM - Dmitry Moskalchuk

- Status changed from Open to Closed

- % Done changed from 0 to 100

This is fixed in clang-3.8, so closing this ticket as not actual anymore.