

devops - Bug #17516

aarch64: Compiler-based detection of crc32 extended CPU type is broken

10/05/2016 08:44 PM - Nathan Cutler

Status: Pending Backport	Start date: 10/05/2016
Priority: Normal	Due date:
Assignee:	% Done: 0%
Category:	Estimated time: 0.00 hour
Target version:	Reviewed:
Source: Community (dev)	Affected Versions:
Tags:	ceph-qa-suite:
Backport: jewel,luminous,mimic	Pull request ID: 24168
Regression: No	
Severity: 3 - minor	
Description	
Related issues:	
Copied to devops - Backport #17575: jewel: aarch64: Compiler-based detection ...	Resolved
Copied to devops - Backport #36080: luminous: aarch64: Compiler-based detecti...	In Progress
Copied to devops - Backport #40258: mimic: aarch64: Compiler-based detection ...	New

History

#1 - 10/05/2016 08:44 PM - Nathan Cutler

master PR: <https://github.com/ceph/ceph/pull/11391>

#2 - 10/10/2016 01:07 PM - Nathan Cutler

Note that the master PR uses cmake but the jewel backport will need to use autotools - agraf has already prepared an autotools version of the fix.

#3 - 10/13/2016 04:42 PM - Nathan Cutler

- Status changed from Need Review to Pending Backport

#4 - 10/13/2016 10:01 PM - Loic Dachary

- Copied to Backport #17575: jewel: aarch64: Compiler-based detection of crc32 extended CPU type is broken added

#5 - 10/20/2016 10:38 AM - Loic Dachary

- Status changed from Pending Backport to Resolved

#6 - 09/19/2018 05:52 AM - Kefu Chai

```
/usr/bin/aarch64-linux-gnu-g++ -march=armv8-a -g -O2 -fstack-protector-strong -Wformat -Werror=format-security -Wdate-time -D_FORTIFY_SOURCE=2 -Wall -Wtype-limits -Wignored-qualifiers -Winit-self -Wpointer-arith -Werror=format-security -fno-strict-aliasing -fsigned-char -Wno-unknown-pragmas -rdynamic -U_FORTIFY_SOURCE -D_FORTIFY_SOURCE=2 -U_FORTIFY_SOURCE -D_FORTIFY_SOURCE=2 -fstack-protector-strong -DHAVE_ARMV8_CRC -fPIE -o /tmp/foo.o -c /tmp/foo.cxx
```

```
/tmp/ccNz2vLJ.s: Assembler messages:
```

```
/tmp/ccNz2vLJ.s:23: Error: selected processor does not support `crc32cx w0,w0,x1'
```

```
# while +crc compiles
```

```
/usr/bin/aarch64-linux-gnu-g++ -march=armv8-a+crc -g -O2 -fstack-protector-strong -Wformat -Werror=format-security -Wdate-time -D_FORTIFY_SOURCE=2 -Wall -Wtype-limits -Wignored-qualifiers -Winit-self -Wpointer-arith -Werror=format-security -fno-strict-aliasing -fsigned-char -Wno-unknown-pragmas -rdynamic -U_FORTIFY_SOURCE -D_FORTIFY_SOURCE=2 -U_FORTIFY_SOURCE -D_FORTIFY_SOURCE=2 -fstack-protector-strong -DHAVE_ARMV8_CRC -fPIE -o /tmp
```

```
/foo.o -c /tmp/foo.cxx
```

```
# /usr/bin/aarch64-linux-gnu-g++ -v
Using built-in specs.
COLLECT_GCC=/usr/bin/aarch64-linux-gnu-g++
COLLECT_LTO_WRAPPER=/usr/lib/gcc/aarch64-linux-gnu/5/lto-wrapper
Target: aarch64-linux-gnu
Configured with: ../src/configure -v --with-pkgversion='Ubuntu/Linaro 5.3.1-14ubuntu2' --with-bugurl=file:///usr/share/doc/gcc-5/README.Bugs --enable-languages=c,ada,c++,java,go,d,fortran,objc,obj-c++ --prefix=/usr --program-suffix=-5 --enable-shared --enable-linker-build-id --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix --libdir=/usr/lib --enable-nls --with-sysroot=/ --enable-clocale=gnu --enable-libstdcxx-debug --enable-libstdcxx-time=yes --with-default-libstdcxx-abi=new --enable-gnu-unique-object --disable-libquadmath --enable-plugin --with-system-zlib --disable-browser-plugin --enable-java-awt=gtk --enable-gtk-cairo --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-5-arm64/jre --enable-java-home --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-5-arm64 --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-5-arm64 --with-arch-directory=aarch64 --with-ecj-jar=/usr/share/java/eclipse-ecj.jar --enable-multiarch --enable-fix-cortex-a53-843419 --disable-werror --enable-checking=release --build=aarch64-linux-gnu --host=aarch64-linux-gnu --target=aarch64-linux-gnu
Thread model: posix
gcc version 5.3.1 20160413 (Ubuntu/Linaro 5.3.1-14ubuntu2)
```

but GCC 5.5 compiles the same source successfully with or without +crc feature specified

```
/usr/bin/aarch64-linux-gnu-g++-5 -v
Using built-in specs.
COLLECT_GCC=/usr/bin/aarch64-linux-gnu-g++-5
COLLECT_LTO_WRAPPER=/usr/lib/gcc/aarch64-linux-gnu/5/lto-wrapper
Target: aarch64-linux-gnu
Configured with: ../src/configure -v --with-pkgversion='Ubuntu/Linaro 5.4.0-6ubuntu1~16.04.10' --with-bugurl=file:///usr/share/doc/gcc-5/README.Bugs --enable-languages=c,ada,c++,java,go,d,fortran,objc,obj-c++ --prefix=/usr --program-suffix=-5 --enable-shared --enable-linker-build-id --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix --libdir=/usr/lib --enable-nls --with-sysroot=/ --enable-clocale=gnu --enable-libstdcxx-debug --enable-libstdcxx-time=yes --with-default-libstdcxx-abi=new --enable-gnu-unique-object --disable-libquadmath --enable-plugin --with-system-zlib --disable-browser-plugin --enable-java-awt=gtk --enable-gtk-cairo --with-java-home=/usr/lib/jvm/java-1.5.0-gcj-5-arm64/jre --enable-java-home --with-jvm-root-dir=/usr/lib/jvm/java-1.5.0-gcj-5-arm64 --with-jvm-jar-dir=/usr/lib/jvm-exports/java-1.5.0-gcj-5-arm64 --with-arch-directory=aarch64 --with-ecj-jar=/usr/share/java/eclipse-ecj.jar --enable-multiarch --enable-fix-cortex-a53-843419 --disable-werror --enable-checking=release --build=aarch64-linux-gnu --host=aarch64-linux-gnu --target=aarch64-linux-gnu
Thread model: posix
gcc version 5.4.0 20160609 (Ubuntu/Linaro 5.4.0-6ubuntu1~16.04.10)
```

#7 - 09/19/2018 05:52 AM - Kefu Chai

- Status changed from Resolved to Verified
- Backport changed from jewel to luminous

#8 - 09/19/2018 06:41 AM - Kefu Chai

- Copied to Backport #36080: luminous: aarch64: Compiler-based detection of crc32 extended CPU type is broken added

#9 - 09/19/2018 06:42 AM - Kefu Chai

- Status changed from Verified to Need Review
- Backport changed from luminous to luminous,mimic

#10 - 09/25/2018 08:50 AM - Nathan Cutler

New master PR: <https://github.com/ceph/ceph/pull/24168>

#11 - 06/11/2019 02:55 PM - Nathan Cutler

- Status changed from Need Review to Pending Backport
- Backport changed from luminous,mimic to jewel,luminous,mimic

#12 - 06/11/2019 02:56 PM - Nathan Cutler

- Copied to Backport #40258: mimic: aarch64: Compiler-based detection of crc32 extended CPU type is broken added

#13 - 06/11/2019 02:57 PM - Nathan Cutler

- Pull request ID set to 24168