

## batman-adv - Bug #304

### gcc6: "error: code model kernel does not support PIC mode"

10/31/2016 06:39 AM - Linus Lüssing

<b>Status:</b>	Rejected	<b>Start date:</b>	10/31/2016
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>		<b>% Done:</b>	0%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>			

#### Description

On a Debian Sid compiling for a 4.9-rc3 kernel with gcc 6.2.0-10, I currently get the following error:

```
root@Linus-Debian:/mnt/batman-adv-t_x# make
/mnt/batman-adv-t_x/gen-compat-autoconf.sh /mnt/batman-adv-t_x/compat-autoconf.h
mkdir -p /mnt/batman-adv-t_x/build/net/batman-adv/
compat-patches/replacements.sh
touch /mnt/batman-adv-t_x/build/net/batman-adv/.compat-prepared
make -C /lib/modules/4.9.0-rc3+/build M=/mnt/batman-adv-t_x PWD=/mnt/batman-adv-t_x REVISION=2016.
4 CONFIG_BATMAN_ADV=m CONFIG_BATMAN_ADV_DEBUG=n CONFIG_BATMAN_ADV_DEBUGFS=y CONFIG_BATMAN_ADV_BLA=
y CONFIG_BATMAN_ADV_DAT=y CONFIG_BATMAN_ADV_NC=n CONFIG_BATMAN_ADV_MCAST=y CONFIG_BATMAN_ADV_BATMA
N_V=n INSTALL_MOD_DIR=updates/ modules
make[1]: Entering directory '/usr/src/linux-headers-4.9.0-rc3+'
cat: -: No such file or directory
CC [M] /mnt/batman-adv-t_x/build/net/batman-adv/../../../../compat-sources/net/core/skbuff.o
/mnt/batman-adv-t_x/build/net/batman-adv/../../../../compat-sources/net/core/skbuff.c:1:0: error: cod
e model kernel does not support PIC mode
/*

scripts/Makefile.build:290: recipe for target '/mnt/batman-adv-t_x/build/net/batman-adv/../../../../c
ompat-sources/net/core/skbuff.o' failed
make[3]: *** [/mnt/batman-adv-t_x/build/net/batman-adv/../../../../compat-sources/net/core/skbuff.o]
Error 1
scripts/Makefile.build:475: recipe for target '/mnt/batman-adv-t_x/build/net/batman-adv' failed
make[2]: *** [/mnt/batman-adv-t_x/build/net/batman-adv] Error 2
Makefile:1482: recipe for target '_module_/mnt/batman-adv-t_x' failed
make[1]: *** [_module_/mnt/batman-adv-t_x] Error 2
make[1]: Leaving directory '/usr/src/linux-headers-4.9.0-rc3+'
Makefile:89: recipe for target 'all' failed
make: *** [all] Error 2
```

It seems to have something to do with PIE hardening which got enabled by default in gcc6 last week in Debian:

<https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=835148>

Compiling with '\$ make EXTRA\_CFLAGS="-fno-pie"' helps.

So my question is, whether this flag should be added to the batman-adv out-of-tree Makefile.

Some comments seem to suggest, that PIE does not work for kernels / kernel modules by design. (I have not looked at what PIE hardening actually is, so I have no clue yet whether disabling is the right choice)

#### History

#1 - 10/31/2016 06:40 AM - Linus Lüssing

- Description updated

#2 - 10/31/2016 07:28 AM - Sven Eckelmann

- Status changed from New to Rejected

Problem of Debian: <https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=841420>

### #3 - 11/07/2016 10:36 PM - Sven Eckelmann

Seems that Ben gave up and included following patch in his kernel tree:

[https://anonscm.debian.org/cgiit/kernel/linux.git/tree/debian/patches/bugfix/all/kbuild-add-fno-pie\\_patch?id=25e532ff97db2fb2990e8b6e0fb74a9313255656](https://anonscm.debian.org/cgiit/kernel/linux.git/tree/debian/patches/bugfix/all/kbuild-add-fno-pie_patch?id=25e532ff97db2fb2990e8b6e0fb74a9313255656)

But it seems not to be enough. At least when I read following correctly: <https://www.spinics.net/lists/linux-kbuild/msg13620.html>

So I would still say that it is not a flag we should include but which should be included in the kernel. And hopefully in a way which doesn't break older GCC versions (which simply including this flag by us will do).

### #4 - 11/13/2016 12:00 PM - Sven Eckelmann

The upstream kernel fixes (hm, maybe we should call them workarounds) are:

- <https://git.kernel.org/cgiit/linux/kernel/git/mmarek/kbuild.git/commit/?id=8ae94224c9d72fc4d9aac93b2d7833cf46d7141> \*
- <https://git.kernel.org/cgiit/linux/kernel/git/mmarek/kbuild.git/commit/?id=82031ea29e454b574bc6f49a33683a693ca5d907> \*
- <https://git.kernel.org/cgiit/linux/kernel/git/mmarek/kbuild.git/commit/?id=90944e40ba1838de4b2a9290cf273f9d76bd3bdd>

I will have a lot of fun later when porting them to 3.2-4.9 for the build\_test.git repository.