# Ruby - Bug #14464

# MJIT & MinGW / gcc 7.3.0 seemed ok as of 62337, fail or skip after

02/11/2018 02:37 PM - MSP-Greg (Greg L)

Status:	Closed		
Priority:	Normal		
Assignee:	k0kubun (Takashi Kokubun)		
Target version:			
ruby -v:	ruby 2.6.0dev (2018-05-23 trunk 63492) [x64-mingw32]	Backport:	2.3: UNKNOWN, 2.4: UNKNOWN, 2.5: UNKNOWN
Description		-	

# Description

First of all, a thank you to those working on MJIT.

At least three builds of ruby-loco MinGW passed the MJIT tests (62327, 62331, 62337), but after that, the tests have either failed or skipped. First fail was at 62341.

The most recent build (2018-02-11 trunk 62371), skipped with no timeout error in jit\_supported? I haven't looked at patching test\_jit.rb to see if I can get more info.

I don't know if this is a MinGW issue or a gcc 7.3.0 issue, but, given that it did work for a few builds, I would appreciate it if someone could look into it. Anything I can help with, I'm happy to.

Thanks, Greg

# History

# #1 - 02/12/2018 01:33 AM - k0kubun (Takashi Kokubun)

It seems that all JIT compilations on MinGW started to fail from r62340, and I fixed it on r62376. Now the tests won't be skipped on MinGW builds. For now, I recommend to specify environment variable RUBY\_FORCE\_TEST\_JIT=1 when running test-all.

After r62376, JIT infrastructure seems working. But some tests in test\_jit.rb is failing. The test failure seems to be caused by pointing to invalid address in generated code. As Linux builds with gcc 7.2 are perfectly working, probably it's caused by difference between size of variable types and wrong casting. This was NOT working as of r62337 too. We need deeper investigation for it...

# #2 - 02/12/2018 02:24 AM - MSP-Greg (Greg L)

k0kubun,

Thank you for the response. A few notes:

The test-all log for 62337 showed the two MJIT tests passing, but subsequent builds skipped (or failed with RUBY\_FORCE\_TEST\_JIT).

In the 62375 build (after my first post), both tests skipped.

RubyCl.org is rather 'tablet unfriendly', which biases me away from all use (gotta get over that), but I'll keep an eye on the Linux/gcc 7.2+ builds for the tests results.

Since ruby-loco is used for CI, I won't force fails with RUBY\_FORCE\_TEST\_JIT, so I'll keep checking the logs...

We need deeper investigation for it...

As stated prev, not being a c type, I'm not much help. If there is anything I can add to the build to help identify the issue, I'll be happy to.

NOTE: I just saw 62376 (thanks), the next scheduled build is done at Noon JST. I'll post back when done...

Thanks again, Greg

# #3 - 02/12/2018 05:21 AM - MSP-Greg (Greg L)

- File TestJIT\_info\_62380.txt added

## @k0kubun (Takashi Kokubun),

Appveyor run of 62377 had the following (added backticks for web view):

```
Retrying...
[1/2]
         8 TestJIT#test_compile_insns = 11.33 s = F
[2/2]
         7 TestJIT#test_jit_output = 5.58 s = .
 1) Failure:
TestJIT#test_compile_insns [C:/projects/ruby-loco/src/ruby/test/ruby/test_jit.rb:30]:
Failed to run script with JIT:
def foo(&b)
 a = b
 b = 2
 a.call + 2
end
print foo { 1 }
1 ^ ^
stdout:
1 . .
1 . .
stderr:
JIT success (1318.5ms): foo@-e:1 -> C:/Users/appveyor/AppData/Local/temp/_ruby_mjit_p12476u0.c
-e:2:in `foo': wrong argument type Binding (expected Class) (TypeError)
from -e:7:in `<main>'
Successful MJIT finish
1 . .
<true> expected but was
```

<false>.

I ran the test locally, and I'm wondering what is using the /Users/user name/AppData/Local/temp folder, as on my system, all TEMP/TMP env variables are set to different folders. I've built ruby for quite a while, and also MSYS2 packages, and I don't ever recall anything using that. For many windows users, their user name may have a space (as mine does). That hasn't been an issue with config files, --user-install gems, etc.

But, when I ran the tests, it mangles the path...

The test-all summary for TestJIT is attached for 62380. I believe there are 9 failures & 5 skips in 64 tests?

Thanks again,

Greg

### #4 - 02/21/2018 06:22 AM - hsbt (Hiroshi SHIBATA)

- Status changed from Open to Assigned

- Assignee set to k0kubun (Takashi Kokubun)

### #5 - 04/18/2018 03:04 PM - k0kubun (Takashi Kokubun)

I'm wondering what is using the /Users/user name/AppData/Local/temp folder, as on my system, all TEMP/TMP env variables are set to different folders.

Now MJIT seems to use the result of rb\_w32\_system\_tmpdir(), not just \$TEMP or \$TMP.

If there is anything I can add to the build to help identify the issue, I'll be happy to.

Current status of investigation for this ticket: I've investigated why #test\_compile\_insn\_intern\_duparray in test\_jit.rb fails. I minimized the reproductive code to be ruby --disable-gems -e 'p proc { 0.to\_s }.call' --jit-wait --jit-min-calls=1.

As far as I've debugged with gdb, the code crashes because rb\_class\_of(FIXNUM(0)), which is called by vm\_search\_method in \_mjit0, returns the value of &rb\_clnteger instead of rb\_clnteger, and then Module#to\_s is dispatched for 0.to\_s. As 0 is not Module, it crashes. The rb\_class\_of code in MJIT header looks to properly return rb\_clnteger. So I have no idea why it returns &rb\_clnteger.

For those who help me for this issue, it would be helpful to confirm that my above understanding is correct or comment some wrong assumption in it. Thanks.

## #6 - 05/03/2018 09:00 PM - MSP-Greg (Greg L)

- File MJIT-MinGW-63333.txt added

#### k0kubun,

Thanks for looking into this. The motherboard on my home desktop stopped working, so I've been without a good dev system. The temp folder issue seems corrected; I looked thru the c code, and added TEMPDIR, which I hadn't used before.

It may not be helpful, but I've attached a log of 63333 and test\_jit.rb. It's at 9 failures...

Thanks, Greg

## #7 - 05/22/2018 10:43 PM - MSP-Greg (Greg L)

- ruby -v changed from ruby 2.6.0dev (2018-02-11 trunk 62371) [x64-mingw32] to ruby 2.6.0dev (2018-05-23 trunk 63492) [x64-mingw32]

## @k0kubun (Takashi Kokubun),

Just ran with 63492, all passed with 5 skips, partial log:

```
1) Skipped:
TestJIT#test_compile_insn_getblockparamproxy [C:/Greg/GitHub/ruby/test/ruby/test_jit.rb:89]:
support this in mjit_compile
2) Skipped:
TestJIT#test_compile_insn_opt_call_c_function [C:/Greg/GitHub/ruby/test/ruby/test_jit.rb:523]:
support this in opt_call_c_function (low priority)
3) Skipped:
TestJIT#test_compile_insn_reput [C:/Greg/GitHub/ruby/test/ruby/test_jit.rb:246]:
write test
4) Skipped:
TestJIT#test_compile_insn_tracecoverage [C:/Greg/GitHub/ruby/test/ruby/test_jit.rb:277]:
write test
5) Skipped:
TestJIT#test_compile_insn_defineclass [C:/Greg/GitHub/ruby/test/ruby/test_jit.rb:281]:
support this in mjit_compile (low priority)
```

Finished tests in 226.166094s, 0.3228 tests/s, 1.9808 assertions/s. 73 tests, 448 assertions, 0 failures, 0 errors, 5 skips

ruby -v: ruby 2.6.0dev (2018-05-23 trunk 63492) [x64-mingw32]

Thanks for your work on this, Greg

#### #8 - 05/23/2018 12:06 PM - k0kubun (Takashi Kokubun)

- Status changed from Assigned to Closed

Oh, that's very good to know. TBH I don't know which revision fixed the problem, but I'm very happy to know the tests can succeed on the platform. Thank you to report this.

#### #9 - 05/23/2018 08:00 PM - MSP-Greg (Greg L)

@k0kubun (Takashi Kokubun),

I narrowed it down using ruby-loco builds:

```
All ruby 2.6.0dev
(2018-05-21 trunk 63475) [x64-mingw32] 73 tests, 429 assertions, 10 failures, 0 errors, 5 skips
(2018-05-21 trunk 63480) [x64-mingw32] 73 tests, 448 assertions, 0 failures, 0 errors, 5 skips
```

All failing builds left artifacts in TEMPDIR, but 63480, 63492, and 63496 left it clean.

Thanks again, Greg

#10 - 05/26/2018 12:56 PM - k0kubun (Takashi Kokubun)

Thanks for letting me know that. I also confirmed r63479 doesn't pass the tests but r63480 does. So somehow r63480 fixed the issue.

## #11 - 05/27/2018 02:49 PM - MSP-Greg (Greg L)

## @k0kubun (Takashi Kokubun),

Thanks for letting me know that

Not being a c type, it's the least I can do. I often feel like a dumb rock, as I can identify issues, but I can't fix them...

#### FYI, as of:

ruby 2.6.0dev (2018-05-27 trunk 63508) [x64-mingw32]

I re-enabled MJIT in ruby-loco, and the build passed. I've got quite a bit of logging for it, so -

When parallel testing ran, TestJIT#test\_compile\_insn\_opt\_aset failed at (I believe) the second assert. It passed three asserts on the retry.

Thanks again for your work on JIT, Greg

## #12 - 06/20/2018 04:15 AM - MSP-Greg (Greg L)

k0kubun,

First of all, thanks for all your work on MJIT. Lately, I've been testing a few extension gems, and I just decided to try JIT on EventMachine, which normally passes. Got thru quite a bit of it, but then a SEGV.

- 1. Would you like a log, etc?
- 2. If so, here, or open a new issue?

Re Windows, many gems are not testing with new Ruby versions, and they're also behind in releasing fat-binary gems for new Ruby versions. I've been involved in the first issue, now I'm moving to the second.

While working to help build Windows fat-binary gems on Appveyor, I realized that most of the work needed to build fat binaries is the same as the work needed to test on Appveyor.

Hence, to repo these issues, a fat-binary will be available ...

Thanks, Greg

Files

## #13 - 06/20/2018 11:00 AM - k0kubun (Takashi Kokubun)

New issue would be helpful since it seems to be a different problem. And if possible, please minimize the reproductive code. A bug report with reproductive steps using EventMachine might help, but it would be more helpful if you were able to omit EventMachine code to reproduce the SEGV and used very few lines of code.

TestJIT_info_62380.txt	33.4 KB	02/12/2018	MSP-Greg (Greg L)
MJIT-MinGW-63333.txt	28.7 KB	05/03/2018	MSP-Greg (Greg L)