

Ruby trunk - Feature #14830

RubyVM::MJIT.pause / RubyVM::MJIT.resume

06/06/2018 03:52 PM - k0kubun (Takashi Kokubun)

Status:	Closed
Priority:	Normal
Assignee:	k0kubun (Takashi Kokubun)
Target version:	2.6

Description

This ticket is picking only MJIT.pause from <https://bugs.ruby-lang.org/issues/14491> and adding MJIT.resume.

Purpose

- When benchmarking JIT-ed code, I want to get rid of bad impact for performance that comes from ongoing JIT compilation, without waiting for all JIT compilation finish.
- To make it easy to maintain Ruby's test cases that expect there is no child process with --jit. Using --jit makes them fail by existence of gcc or clang process, and I don't want to wait all JIT compilation finish to make it pass.

Proposals

```
# Pause MJIT compilations but keep JIT-ed code available
```

```
RubyVM::MJIT.pause
```

```
# Start MJIT compilations again after the MJIT.pause
```

```
RubyVM::MJIT.resume
```

Details

RubyVM::MJIT.pause

- When MJIT is disabled (without --jit), it raises RuntimeError: "MJIT is not enabled".
- When MJIT is enabled,
 - and when MJIT is paused, it does nothing and returns false.
 - and when MJIT is running, it blocks to wait for current JIT finish, pauses MJIT worker and returns true.

RubyVM::MJIT.resume

- When MJIT is disabled (without --jit), it raises RuntimeError: "MJIT is not enabled".
- When MJIT is enabled,
 - and when MJIT is paused, it starts MJIT worker and returns true. It raises RuntimeError if it fails to resume (very rare).
 - and when MJIT is running, it does nothing and returns false.

Related issues:

Related to Ruby trunk - Bug #14867: Process.wait can wait for MJIT compiler p... **Closed**

Related to Ruby trunk - Feature #14954: Add :wait option to RubyVM::MJIT.pause **Closed**

Follows Ruby trunk - Feature #14491: MJIT needs internal debugging methods **Closed**

Associated revisions

Revision 0af19735 - 06/21/2018 02:04 PM - k0kubun (Takashi Kokubun)

mjit.c: RubyVM::MJIT.pause / RubyVM::MJIT.resume

[Feature #14830]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@63710 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 63710 - 06/21/2018 02:04 PM - k0kubun (Takashi Kokubun)

mjit.c: RubyVM::MJIT.pause / RubyVM::MJIT.resume

[Feature #14830]

History

#1 - 06/06/2018 03:55 PM - k0kubun (Takashi Kokubun)

I already created a patch for this <https://github.com/ruby/ruby/pull/1882>. Please check it out if you're interested in the details.

#2 - 06/06/2018 04:01 PM - k0kubun (Takashi Kokubun)

- Follows Feature #14491: MJIT needs internal debugging methods added

#3 - 06/21/2018 09:21 AM - mame (Yusuke Endoh)

- Status changed from Open to Assigned

We discussed this ticket at the developers' meeting. There is no objection (because RubyVM is just for internal features), and matz approved. Please go ahead.

One point: Using MJIT.pause to "maintain Ruby's test cases that expect there is no child process with --jit", may indicate another issue. For example, waitpid(-1) waits for any child process. If waitpid(-1) detects termination of gcc process, it is not an expected behavior. If the test in question checks this kind of issues, "fixing" it by using MJIT.pause does not solve the issue itself.

#4 - 06/21/2018 02:05 PM - k0kubun (Takashi Kokubun)

- Status changed from Assigned to Closed

Applied in changeset [trunk|r63710](#).

mjit.c: RubyVM::MJIT.pause / RubyVM::MJIT.resume

[Feature [#14830](#)]

#5 - 06/21/2018 02:09 PM - k0kubun (Takashi Kokubun)

If the test in question checks this kind of issues, "fixing" it by using MJIT.pause does not solve the issue itself.

That makes sense. I had thought it's a kind of limitation with MJIT, but I rethought that we should have some special fix for waitpid(-1) and related things, considering the real usage. So I'll forget the second purpose, just skip the test for now and really fix it later. I committed this feature for the first purpose anyway.

#6 - 06/23/2018 07:40 AM - k0kubun (Takashi Kokubun)

- Related to Bug #14867: Process.wait can wait for MJIT compiler process added

#7 - 07/31/2018 10:12 AM - k0kubun (Takashi Kokubun)

- Related to Feature #14954: Add :wait option to RubyVM::MJIT.pause added