

## Ruby master - Bug #4683

### [PATCH] io.c: copy\_stream execute interrupts and retry

05/13/2011 06:56 AM - normalperson (Eric Wong)

<b>Status:</b> Closed	
<b>Priority:</b> Normal	
<b>Assignee:</b> akr (Akira Tanaka)	
<b>Target version:</b> 1.9.3	
<b>ruby -v:</b> ruby 1.9.3dev (2011-05-13 trunk 31504) [x86_64-linux]	<b>Backport:</b>
<b>Description</b> It's debatable whether this is a bug or not, but I think the current interrupt handling behavior with IO.copy_stream is fragile and unpredictable, and inconsistent with IO#read and IO#write.  This is to be consistent with IO#read and IO#write behavior where rb_io_wait_readable() and rb_io_wait_writable() retry on interrupt (EAGAIN/ERESTART) instead of returning a short copy or raising Errno::EINTR.	
<b>Related issues:</b> Related to Ruby master - Bug #4680: [PATCH] io.c: fix busy wait with sendfile() <span style="float: right;">Closed 05/13/2011</span>	

#### History

##### #1 - 05/20/2011 08:23 AM - normalperson (Eric Wong)

Eric Wong [normalperson@yhbt.net](mailto:normalperson@yhbt.net) wrote:

Bug #4683: [PATCH] io.c: copy\_stream execute interrupts and retry  
<http://redmine.ruby-lang.org/issues/4683>

It's debatable whether this is a bug or not, but I think the current interrupt handling behavior with IO.copy\_stream is fragile and unpredictable, and inconsistent with IO#read and IO#write.

This is to be consistent with IO#read and IO#write behavior where rb\_io\_wait\_readable() and rb\_io\_wait\_writable() retry on interrupt (EAGAIN/ERESTART) instead of returning a short copy or raising Errno::EINTR.

Can I get a response on this soon? I really want this issue resolved before 1.9.3 because it's inconsistent with existing Ruby read/write behavior and working around it painful.

A backport to 1.9.2 would be appreciated, too.

Thanks!

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Eric Wong

##### #2 - 05/20/2011 02:46 PM - naruse (Yui NARUSE)

- Status changed from Open to Assigned

- Assignee set to akr (Akira Tanaka)

##### #3 - 05/28/2011 04:15 PM - akr (Akira Tanaka)

I think this is subtle but interesting issue. Thank you.

I'm not sure rb\_thread\_interrupted() is callable without GVL.  
kosaki pointed mutual exclusion issue with interrupt\_flag.  
<http://redmine.ruby-lang.org/issues/4770>

Since the experimental function rb\_thread\_call\_with\_gvl is not callable

with GVL, `nogvl_copy_stream_continue_p` is not callable with GVL.  
So `nogvl_copy_stream_continue_p` is not callable from `maygvl_*` such as `maygvl_copy_stream_wait_read`.  
I guess `maygvl_*` functions needs `has_gvl` parameter to keep GVL status.

**#4 - 05/29/2011 07:10 AM - akr (Akira Tanaka)**

Hm. `rb_thread_interrupted()` is safe to call from blocking region.

**#5 - 05/29/2011 01:26 PM - akr (Akira Tanaka)**

As far as I remember, `io.c` should not use `vm_core.h` and `rb_thread_t`.  
`ko1` dislikes it.

**#6 - 05/29/2011 07:29 PM - akr (Akira Tanaka)**

- *File `copy_stream_interrupt_handling.patch` added*

**#7 - 05/31/2011 01:53 PM - normalperson (Eric Wong)**

Akira Tanaka [akr@fsij.org](mailto:akr@fsij.org) wrote:

As far as I remember, `io.c` should not use `vm_core.h` and `rb_thread_t`.  
`ko1` dislikes it.

I think we can work around it by making more API methods public.

I have an old issue open to export `rb_thread_call_with_gvl()` for extensions:

<http://redmine.ruby-lang.org/issues/4328>

Perhaps `exec_interrupts()` can be made into a public API method:  
`rb_thread_exec_interrupts_with_gvl()`

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Eric Wong

**#8 - 06/02/2011 08:20 PM - akr (Akira Tanaka)**

- *File `copy_stream_interrupt_handling-2.patch` added*

Adding public functions needs a discussion with `ko1`.

`copy_stream_interrupt_handling-2.patch` uses `internal.h` to share declarations between `io.c` and `thread.c`.

**#9 - 06/03/2011 01:53 AM - normalperson (Eric Wong)**

Akira Tanaka [akr@fsij.org](mailto:akr@fsij.org) wrote:

Issue [#4683](#) has been updated by Akira Tanaka.

File `copy_stream_interrupt_handling-2.patch` added

Patch looks good, thanks! Can you please commit?

Adding public functions needs a discussion with `ko1`.

I haven't seen any response for [#4328](#) in months, though :(

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Eric Wong

**#10 - 06/14/2011 08:40 AM - akr (Akira Tanaka)**

- *Status changed from Assigned to Closed*

**Files**

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0001-io.c-copy_stream-execute-interrupts-and-retry.patch	4.02 KB	05/13/2011	normalperson (Eric Wong)
0002-test_io-add-test-for-copy_stream-failing-on-EINTR.patch	1.75 KB	05/13/2011	normalperson (Eric Wong)

copy_stream_interrupt_handling.patch	7.97 KB	05/29/2011	akr (Akira Tanaka)
copy_stream_interrupt_handling-2.patch	9.42 KB	06/02/2011	akr (Akira Tanaka)