

Ruby - Bug #10153

File.open block does not throw "No space left on device (Errno::ENOSPC)" if the data fits the buffer of IO.write

08/19/2014 04:02 PM - butching314 (Marvin Reyes)

Status:	Closed	
Priority:	Normal	
Assignee:	matz (Yukihiro Matsumoto)	
Target version:	2.2.0	
ruby -v:	ruby 1.9.3p484 (2013-11-22) [x86_64-linux]	Backport: 2.0.0: DONE, 2.1: DONE

Description

When writing to file in disk using File.open with a block as an argument, if the diskspace is full and IO.write does not flush right away, the block just exits successfully instead of throwing Errno::ENOSPC.

Setup: Drive partition needs to be full

Eg. of a write that will succeed normally with no exception given that the drive is full (this means that the expected failure is being swallowed)

```
File.open('/full_drive/test.txt','wb') do |file|
  file.write("test")
end
```

```
#This will complete normally because the "test" data does not get flushed
#This will leave a 0kb file on the disk
```

Eg. force a flush to see the error

```
File.open('/full_drive/test.txt','wb') do |file|
  file.write("test")
  file.flush
end
```

```
#This will throw Errno::ENOSPC
#This will leave a 0kb file on the disk
```

Eg. write a large enough data that file.write will flush by itself (most likely it hits the buffer cap)

```
fills = '1'*1048576
File.open('/full_drive/test.txt','wb') do |file|
  file.write(fills)
end
```

```
#This will throw Errno::ENOSPC
#This will leave a 0kb file on the disk
```

Eg. When not using File.open block argument and closing the IO with an ensure block

```
begin
  io = File.open('/full_drive/test.txt', 'wb')
  io.write("test")
ensure
  io.close
end
```

```
#This will throw Errno::ENOSPC
#This will leave a 0kb file on the disk
```

Currently tested in RHEL5.

Notes:

- I've encountered this in ruby-1.9.2
- I've tested this with ruby-2.1.2
- I'm not sure if the issue is because of File.open usage of c-extension rb_ensure or io_close. reference: (<http://ruby-doc.org/core-1.9.3/File.html#method-c-open>)

Related issues:

Related to Ruby - Bug #13405: IO#close raises "stream closed"

Closed

Associated revisions

Revision febfb2cefb3b69dd859b3c81e0512d0bae9b315ea - 08/26/2014 08:12 AM - nobu (Nobuyoshi Nakada)

io.c: do not swallow exceptions at end of block

- io.c (io_close): ignore only "closed stream" IOError and NoMethodError, do not swallow other exceptions at the end of block. [ruby-core:64463] [Bug #10153]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@47288 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision febfb2cef - 08/26/2014 08:12 AM - nobu (Nobuyoshi Nakada)

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Revision 8f01a278170f870588eae2b8afc40f6b58c55be - 09/09/2014 06:47 PM - nagachika (Tomoyuki Chikanaga)

merge revision(s) r47288: [Backport #10153]

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* io.c (io_close): ignore only "closed stream" IOError and
  NoMethodError, do not swallow other exceptions at the end of
  block. [ruby-core:64463] [Bug #10153]
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git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_1@47486 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 8f01a278 - 09/09/2014 06:47 PM - nagachika (Tomoyuki Chikanaga)

merge revision(s) r47288: [Backport #10153]

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Revision 9d742d7365cfde9317b8acf5c24c0b22bc916f9b - 09/10/2014 03:36 AM - U.Nakamura

merge revision(s) 47288: [Backport #10153]

```
* io.c (io_close): ignore only "closed stream" IOError and
  NoMethodError, do not swallow other exceptions at the end of
  block. [ruby-core:64463] [Bug #10153]
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git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_0_0@47503 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 9d742d73 - 09/10/2014 03:36 AM - U.Nakamura

merge revision(s) 47288: [Backport #10153]

```
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  NoMethodError, do not swallow other exceptions at the end of
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git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_0_0@47503 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

History

#1 - 08/24/2014 10:23 AM - znz (Kazuhiro NISHIYAMA)

- Priority changed from 5 to Normal

- Target version changed from 2.6 to 2.2.0

I can reproduce 2.2.0dev with /dev/full.

```
% ruby -ve 'File.open("/dev/full", "w"){|f|f.puts "test"}'
ruby 2.2.0dev (2014-06-28 trunk 46598) [x86_64-linux]
% ruby -ve 'File.open("/dev/full", "w"){|f|f.puts "test"; f.flush}'
ruby 2.2.0dev (2014-06-28 trunk 46598) [x86_64-linux]
-e:1:in `flush': No space left on device (Errno::ENOSPC)
      from -e:1:in `block in <main>'
      from -e:1:in `open'
      from -e:1:in `<main>'
%
```

#2 - 08/25/2014 02:49 AM - nobu (Nobuyoshi Nakada)

- Status changed from Open to Assigned

- Assignee set to matz (Yukihiro Matsumoto)

This behavior was introduced at r10623 by matz, but the commit log is only:

```
* io.c (io_close): always calls "close" method of the receiver.
\[ruby-core:69111\] \[ruby-core:81121\]
```

#3 - 08/26/2014 08:13 AM - nobu (Nobuyoshi Nakada)

- Status changed from Assigned to Closed

- % Done changed from 0 to 100

Applied in changeset r47288.

io.c: do not swallow exceptions at end of block

- io.c (io_close): ignore only "closed stream" IOError and NoMethodError, do not swallow other exceptions at the end of block. [\[ruby-core:64463\]](#) [Bug [#10153](#)]

#4 - 08/26/2014 08:14 AM - nobu (Nobuyoshi Nakada)

Seems intended to ignore IOError and NoMethodError.

#5 - 08/26/2014 11:38 AM - nagachika (Tomoyuki Chikanaga)

- Backport changed from 2.0.0: UNKNOWN, 2.1: UNKNOWN to 2.0.0: REQUIRED, 2.1: REQUIRED

#6 - 08/26/2014 08:22 PM - butching314 (Marvin Reyes)

What is the conclusion for this post?

#7 - 09/09/2014 06:48 PM - nagachika (Tomoyuki Chikanaga)

- Backport changed from 2.0.0: REQUIRED, 2.1: REQUIRED to 2.0.0: REQUIRED, 2.1: DONE

Backported into ruby_2_1 branch at r47486.

#8 - 09/10/2014 03:36 AM - usa (Usaku NAKAMURA)

- Backport changed from 2.0.0: REQUIRED, 2.1: DONE to 2.0.0: DONE, 2.1: DONE

backported into ruby_2_0_0 at r47503.

#9 - 04/07/2017 04:30 AM - shyouhei (Shyouhei Urabe)

- Related to Bug [#13405](#): IO#close raises "stream closed" added