

Backport200 - Backport #8109

FileUtils.mv fails across devices on Windows

03/18/2013 03:03 PM - mitchellh (Mitchell Hashimoto)

Status:	Closed	
Priority:	Normal	
Assignee:	nagachika (Tomoyuki Chikanaga)	
Description		
Reproduction code: https://gist.github.com/luislavena/5179408		
The issue is that Ruby is using MoveFile under the covers: http://msdn.microsoft.com/en-us/library/windows/desktop/aa365239(v=vs.85).aspx		
Quote directly from the MoveFile docs: "The one caveat is that the MoveFile function will fail on directory moves when the destination is on a different volume."		
Instead, MoveFileEx should be used with the MOVEFILE_COPY_ALLOWED flag. This function has existed since XP, and since Ruby 1.9 is XP+, we can safely switch to this: http://msdn.microsoft.com/en-us/library/windows/desktop/aa365240(v=vs.85).aspx		
The MoveFileEx call with the proper flag will just do the right thing.		
Related issues:		
Related to Backport193 - Backport #8609: FileUtils.mv fails across devices on...	Closed	03/18/2013

Associated revisions

Revision 35cc29c8 - 03/29/2013 06:52 PM - usa (Usaku NAKAMURA)

- win32/win32.c (wrename): use MoveFileExW instead of MoveFileW, because the latter fails on cross device file move of some environments. fix [ruby-core:53492] [Bug #8109] reported by mitchellh (Mitchell Hashimoto)

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@40001 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 40001 - 03/29/2013 06:52 PM - usa (Usaku NAKAMURA)

- win32/win32.c (wrename): use MoveFileExW instead of MoveFileW, because the latter fails on cross device file move of some environments. fix [ruby-core:53492] [Bug #8109] reported by mitchellh (Mitchell Hashimoto)

Revision 40001 - 03/29/2013 06:52 PM - usa (Usaku NAKAMURA)

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Revision c632c925 - 08/04/2013 01:42 PM - nagachika (Tomoyuki Chikanaga)

merge revision(s) 40001: [Backport #8109]

```
* win32/win32.c (wrename): use MoveFileExW instead of MoveFileW,
because the latter fails on cross device file move of some
environments.
fix [ruby-core:53492] [Bug #8109]
reported by mitchellh (Mitchell Hashimoto)
```

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_2_0_0@42375 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 42375 - 08/04/2013 01:42 PM - nagachika (Tomoyuki Chikanaga)

merge revision(s) 40001: [Backport #8109]

```
* win32/win32.c (wrename): use MoveFileExW instead of MoveFileW,
because the latter fails on cross device file move of some
environments.
fix [ruby-core:53492] [Bug #8109]
reported by mitchellh (Mitchell Hashimoto)
```

Revision e6716b5e - 08/09/2013 06:53 AM - usa (Usaku NAKAMURA)

merge revision(s) 40001: [Backport #8609]

```
* win32/win32.c (wrename): use MoveFileExW instead of MoveFileW,
because the latter fails on cross device file move of some
environments.
fix [ruby-core:53492] [Bug #8109]
reported by mitchellh (Mitchell Hashimoto)
```

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_1_9_3@42460 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

History

#1 - 03/18/2013 04:15 PM - nobu (Nobuyoshi Nakada)

```
=begin
Why Windows returns (({ERROR_ACCESS_DENIED})) on cross-device link for directory, while (({ERROR_NOT_SAME_DEVICE})) for file?
=end
```

#2 - 03/19/2013 08:14 PM - usa (Usaku NAKAMURA)

How reproduce this?
I cannot reproduce on Windows 7 (x64).
(The target volume is FAT32 on USB memory.)

Need network drive, or others?

#3 - 03/19/2013 09:45 PM - luislavena (Luis Lavena)

- Category set to platform/windows
- Assignee set to cruby-windows

usa (Usaku NAKAMURA) wrote:

```
How reproduce this?
I cannot reproduce on Windows 7 (x64).
(The target volume is FAT32 on USB memory.)
```

Need network drive, or others?

Dunno about moving from NTFS to FAT32, but I used ImDisk (a ram drive) to create a ntfs drive, then:

```
require "fileutils"
Dir.mkdir "C:/somedirectory"
FileUtils.mv "C:/somedirectory", "V:/another"
```

This fails because it relies on File.rename which uses FileMoveW and is not causing cross-device link error, but instead access denied, as "move" does in the Command Prompt

Since we use FileMoveEx anyway if the target file exists, perhaps we can directly use FileMoveEx all the way and use MOVEFILE_COPY_ALLOWED combined with MOVEFILE_REPLACE_EXISTING if necessary.

#4 - 03/30/2013 03:52 AM - usa (Usaku NAKAMURA)

- Status changed from Open to Closed
- % Done changed from 0 to 100

This issue was solved with changeset [r40001](#).
Mitchell, thank you for reporting this issue.
Your contribution to Ruby is greatly appreciated.
May Ruby be with you.

- win32/win32.c (wrename): use MoveFileExW instead of MoveFileW, because the latter fails on cross device file move of some environments. fix [ruby-core:53492] [Bug [#8109](#)] reported by mitchellh (Mitchell Hashimoto)

#5 - 03/30/2013 09:57 PM - nagachika (Tomoyuki Chikanaga)

Hello,

usa san, it seems a long-standing bug, isn't it? Do you want to backport r40001 to 1.9.3 branch? I will take a leaf from your opinion for 2.0.0.

Thanks.

#6 - 07/11/2013 10:05 AM - usa (Usaku NAKAMURA)

- Tracker changed from Bug to Backport
- Project changed from Ruby trunk to Backport200
- Category deleted (platform/windows)
- Status changed from Closed to Assigned
- Assignee changed from cruby-windows to nagachika (Tomoyuki Chikanaga)

Sorry for late reply.
I should backport it to 1.9.3 (see [#8609](#)).

#7 - 08/04/2013 10:42 PM - nagachika (Tomoyuki Chikanaga)

- Status changed from Assigned to Closed

This issue was solved with changeset [r42375](#).
Mitchell, thank you for reporting this issue.
Your contribution to Ruby is greatly appreciated.
May Ruby be with you.

merge revision(s) 40001: [Backport [#8109](#)]

```
* win32/win32.c (wrename): use MoveFileExW instead of MoveFileW,  
because the latter fails on cross device file move of some  
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