

## Emulator - Emulator Issues #10514

### SDHC read times are very slow

09/02/2017 09:47 PM - TheGag96

<b>Status:</b> Accepted	<b>% Done:</b> 0%
<b>Priority:</b> Normal	
<b>Assignee:</b>	
<b>Category:</b>	
<b>Target version:</b>	
<b>Operating system:</b> N/A	<b>Relates to performance:</b> No
<b>Issue type:</b> Bug	<b>Easy:</b> No
<b>Milestone:</b>	<b>Relates to maintainability:</b> No
<b>Regression:</b> No	<b>Regression start:</b>
<b>Relates to usability:</b> No	<b>Fixed in:</b>

**Description**

**Game Name?**

Super Smash Bros. Brawl / Project M / Legacy XP

**Game ID?** (right click the game in the game list, properties, info tab)

RSBE01 (RSBEXP)

**What's the problem? Describe what went wrong.**

The new SDHC update got Project M builds larger than 2 GB up and running. However, as soon as the 2 GB limit is passed, file read times become very slow, more so than on a real Wii with a fairly high-end SD card. It's severe enough to the point where music streamed continuously from the SD card (e.g. on the Character Selection Screen in Legacy XP) will often stop as it tries to load the rest of the song.

I'm almost certain this is related to issue [#10461](https://bugs.dolphin-emu.org/issues/10461#change-730393) (<https://bugs.dolphin-emu.org/issues/10461#change-730393>) about the "Receiving vault data..." message -- my guess is that Brawl makes the message pop up if it takes longer than an expected amount of time to read Vault data from the SD card.

**What steps will reproduce the problem?**

Create a 6+ GB SD card file and follow the Legacy XP's install instructions (<http://forums.kc-mm.com/Gallery/BrawlView.php?Number=212860>) as if you were doing so on a real Wii, but of course setting Brawl as the default ISO and loading up the Legacy XP launcher included in the download. Open up the game and play around, especially on the CSS.

**Is the issue present in the latest development version? For future reference, please also write down the version number of the latest development version.**

Yes. 5.0-5352

**If the issue isn't present in the latest stable version, which is the first broken version?**

5.0-5044 is the build number for the SDHC support merge.

**What are your PC specifications?**

i5-750 @ 3.0 GHz, GTX 770, Windows 8.1, tried on both an HDD and SSD

**Is there anything else that can help developers narrow down the issue? (e.g. logs, screenshots, configuration files, savefiles, savestates)**

I included small video showing the SDIO logs on the CSS (no idea if this helps, haha).

**Related issues:**

Has duplicate Emulator - Emulator Issues #10461: 4GB or larger SD cards cause...

**Duplicate**

**History**

**#1 - 09/02/2017 09:48 PM - JMC4789**

Is it just SDHC? I'd assume all SD cards are slow.

**#2 - 09/03/2017 12:25 AM - TheGag96**

JMC4789 wrote:

Is it just SDHC? I'd assume all SD cards are slow.

Definitely not. The WBFS/SD methods of Legacy XP run just fine and much faster than on Wii/Dolphin SDHC. Some of that is to be expected because more of it is loading from the WBFS, but stage alts and clone characters still appear to load much faster.

**#3 - 09/03/2017 02:26 AM - ryanebola16**

Following to help with testing

**#4 - 09/07/2017 02:36 AM - JMC4789**

- Status changed from *New* to *Accepted*

Well, okay.

**#5 - 09/07/2017 07:58 PM - TheGag96**

JMC4789 wrote:

**Status** changed from *New* to *Accepted*

Awesome, thanks!!

**#6 - 09/21/2017 06:41 AM - TheGag96**

Alright, I decided to actually time the loading times to a decent degree. I noticed that the slowdown only seems to occur when you add more than 2 GB worth of files. That is, the same build of Legacy TE (< 2 GB), inserted into any sized virtual SD card, will not have any slowdown. However, Legacy XP, given its size, is where the problems start to show.

Match load on 64 Battlefield:

Real Wii, Sandisk Ultra Class 10 80 MB/s: ~1.4 s

Dolphin 5.0-5491, 8 GB vSD: ~2.7 s

Note that I have a pretty fast SD card -- I got it specifically because another one I had had terrible read speeds. I definitely wouldn't know what the Wii's SD card read speed limit is, but it's clear that whatever timing Dolphin is emulating (intentional or not) isn't necessarily Wii-accurate.

Once again, the biggest issue is the streaming music on the menu that stops because it can't read fast enough. On the Wii, no such problem exists on my SD card.

Thanks for looking into this, guys!

**#7 - 09/21/2017 08:15 AM - JMC4789**

Well, I'm fairly sure we don't emulate any timings - so we should be faster. The fact we're not could be indicative of really, really bad problems.

**#8 - 02/08/2018 11:19 PM - ryanebola16**

When we get accurate SD timings, options should be added to the INI to make the relevant variable(s) easily editable. Mods like BX CSS Expansion v2.0.0.x (<http://forums.kc-mm.com/index.php?topic=65113.0>) would probably benefit from faster-than-console read/write times.

**#9 - 03/22/2018 02:44 PM - leoetlino**

- Has duplicate Emulator Issues #10461: 4GB or larger SD cards cause "Receiving Vault Data..." message to display before title screen in SSBB added

**Files**

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2017-09-02_16-44-56.mp4	3.01 MB	09/02/2017	TheGag96
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