Audacious - Bug #806
Deadlock when updating song info
July 10, 2018 11:18 - Tom Thorogood

Status: Closed
Priority: Major
Assignee: % Done: 100%
Category: libaudcore
Target version: 3.10
Affects version: 3.9

Description
I'm running into a deadlock pretty consistently when clicking Save in the Song Info window. It happens about half the time and may occur the first time the window is opened or later.

To reproduce, I:
- add a new mp3 to my playlist,
- open the Song Info window,
- fill in the info,
- press Save.

I was able to capture the following backtrace running under gdb:

```
Thread 49 (Thread 0x7fff9702b700 (LWP 12328)):
#0 0x000007fff79707fd in __lll_lock_wait () at /lib64/libpthread.so.0
#1 0x000007fff7969cf4 in pthread_mutex_lock () at /lib64/libpthread.so.0
#2 0x000007fff798f9c9 in output_set_tuple(Tuple const&) (tuple=...) at output.cc:452
#3 0x000007fff7ba14b3 in playback_set_info(int, Tuple&) (entry=0, tuple=...) at playback.cc:155
#4 0x000007fff7ba318e in pl_signal_update_queued(Playlist::ID*, Playlist::UpdateLevel, int) (id=<optimized out>, level=Playlist::Metadata, flags=2) at playlist.cc:542
#5 0x000007fff7ba3868 in PlaylistData::update_entry_from_scan(PlaylistEntry*, ScanRequest*, int) (this=0x555555583b50, entry=0x5555559ce2d0, request=0x555555c88660, update_flags=2) at playlist-data.cc:1019
#6 0x000007fff7ba2baf in scan_finish(ScanRequest*) (request=0x5555555c88660) at playlist.cc:420
#7 0x000007fff7bb0bfa in ScanRequest::run() (this=0x5555555c88660) at scanner.cc:108
#8 0x000007fff7bb0d92 in scan_worker(void*, void*) (data=0x5555555c88660) at scanner.cc:113
#9 0x000007fff770c7933 in g_thread_pool_thread_proxy () at /lib64/libpulse.so.0
#10 0x000007fff76f62a in g_thread_proxy () at /lib64/libpulse.so.0
#11 0x000007fff76f7594 in thread () at /lib64/libpthread.so.0
#12 0x000007fff64f4f2f in clone () at /lib64/libc.so.6

Thread 48 (Thread 0x7fff0e8d0700 (LWP 12280)):
#0 0x000007fff64445a9 in poll () at /lib64/libc.so.6
#1 0x000007fff23b0b16 in pump(void*) () at /usr/lib64/audacious/Output/alsa.so
#2 0x000007fff76f7594 in thread () at /lib64/libpthread.so.0
#3 0x000007fff64f4f2f in clone () at /lib64/libc.so.6

Thread 47 (Thread 0x7fffaf2d5700 (LWP 12279)):
#0 0x000007fff64445a9 in poll () at /lib64/libc.so.6
#1 0x000007fff644575 in () at /lib64/libpulse.so.0
#2 0x000007fff645268 in pa_mainloop_poll () at /lib64/libpulse.so.0
#3 0x000007fff645268 in pa_mainloop_iterate () at /lib64/libpulse.so.0
#4 0x000007fff645268 in pa_mainloop_run () at /lib64/libpulse.so.0
#5 0x000007fff645268 in () at /lib64/libpulse.so.0
#6 0x000007fff645268 in () at /usr/lib64/pulseaudio/libpulsecommon-11.1.so
#7 0x000007fff76f7594 in thread () at /lib64/libpthread.so.0
#8 0x000007fff64f4f2f in clone () at /lib64/libc.so.6

Thread 7 (Thread 0x7fffc8a7700 (LWP 5480)):
#0 0x000007fff796d52c in pthread_cond_wait@GLIBC_2.3.2 () at /lib64/libpthread.so.0
#1 0x000007fff23ca3e34 in ALSAPlayer::period_wait() () at /usr/lib64/audacious/Output/alsa.so
```
I'm not familiar with the audacious codebase and couldn't figure out what's causing this, but I'm pretty sure it's deadlocking on a mutex or something similar. (There is no abnormal CPU usage suggesting any sort of infinite loop).

The audio output plug-in is ALSA Output, ReplayGain is enabled, and the following plugins are enabled:
- Audio CD Menu Items,
- Desktop Notifications,
- MPRIS 2 Server,
- ModPlug (Module Player),
- MPG123 Plugin,
- Tact Generator,
- Tone Generator,
- WavPack Decoder,
- FLAC Decoder,
- Ogg Vorbis Decoder,
- Sndfile Plugin,
- ASXv1/ASXv2 Playlists,
- ASXv3 Playlists,
- Audacious Playlists (audpl),
- Cue Sheet Plugin,
- M3U Playlists,
- PLS Playlists,
- XML ShHareable Playlists (XSPF),
- Gio Plugin,
- Neon HTTP/HTTPS Plugin.

I'm running this on Fedora 28 (but I'm pretty sure I had the same problem under 27). The versions I have installed are:

<table>
<thead>
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<th>Package</th>
<th>Version</th>
<th>Location</th>
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<tr>
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<td>@fedora</td>
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<td>audacious-debuginfo.x86_64</td>
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</tbody>
</table>

History

#1 - July 10, 2018 20:44 - John Lindgren
I think I see what is going on here.

Thread 7 (decoder/output) is waiting for space in the output buffer. I'm guessing you had Audacious paused at this point, so it might be waiting a while, which is okay.
Thread 49 (background worker) is waiting on Thread 7 (decoder/output). This is unnecessary and causes Thread 49 to hang.
Thread 1 (GUI) is waiting on Thread 49, which would normally be okay if Thread 49 weren't stuck.

Please see if this fixes the problem:
https://github.com/audacious-media-player/audacious/commit/34dc86b67a830e63de9094affa6f069d0bb3ca83

#2 - July 10, 2018 20:46 - John Lindgren
Thanks for the excellently detailed report, by the way.
Okay, I can reproduce this pretty easily as well, and the change above does fix it.

Key step to reproducing is to edit and try to save the tag of the currently playing song, while it's paused.

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Wonderful John, thank you for getting to the bottom of this! It didn't click that it was always the paused song.

I had trouble getting it to run after building from source so I can't verify the fix. If you can reproduce, I'm sure it is though.

Thanks again.

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I've managed to build audacious at 31b57f7a0e (one ahead of the fix), and I can't reproduce anymore. I'm quite sure it's fixed.

Thanks heaps.