
Subject: Re: OpenGL + Linux crashes

Posted by [Karl Schultz](#) on Tue, 16 Mar 2004 15:54:57 GMT

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"JD Smith" <jdsmith@as.arizona.edu> wrote in message
news:pan.2004.03.15.20.50.11.321172@as.arizona.edu...
> On Mon, 15 Mar 2004 08:50:17 -0700, Karl Schultz wrote:
>
>>
>> "JD Smith" <jdsmith@as.arizona.edu> wrote in message
>> news:pan.2004.03.11.01.22.05.612878@as.arizona.edu...
>>>
>>> On Tue, 09 Mar 2004 13:27:32 -0700, Karl Schultz wrote:
>>>
>>>>
>>>> "Michael Wallace" <mwallace.removethismunge@swri.edu.invalid> wrote
in
>>>> message news:104s3g1s2kg8vf1@corp.supernews.com...
>>>> > > when attempting to use any of IDL's OpenGL 3D stuff (like the
Demo ->
>>>> > > ltools, for example), you might try the following:
>>>> > >
>>>> > > setenv MESA_NO_ASM 1
>>>> > >
>>>> > > which disables some specific ASM code in the Mesa library which
was
>>>> > > causing these types of crashes for me. I use an ATI Radeon 7500 +
>>>> > > XFree86 4.3.0's radeon drivers. With this fix in place, it seems
>>>> > > stable, and is definitely much faster than software rendering.
Give
>> a
>>>> > > a try.
>>>> >
>>>> > This is awesome! I also have a Fedora box with an ATI Radeon 7500
and
>>>> > it works great. I'm just curious what assembly language
optimizations
>>>> > are conflicting with IDL's OpenGL stuff. Oh, well. At least it
works
>>>> > better than using software rendering everywhere.
>>>>
>>>> On recent Linux/XFree86 installations, there are actually two
instances
>> of
>>>> the Mesa library in play when you run IDL. One is the Mesa that is
>> linked
>>>> directly to IDL that IDL uses to perform software rendering and
really

>> isn't
>>>> involved any further in this discussion. The other instance is over
in
>> the
>>>> X server where it implements OpenGL (via GLX) in software if there is
no
>>>> hardware acceleration support. For systems with the hardware and
>> software
>>>> support for hardware acceleration, Mesa still serves as the OpenGL
>>>> implementation and it uses various driver modules to interface with the
>>>> specific hardware.
>>>
>>> <snip>
>>>
>>> Thanks Karl:
>>>
>>> It's great to know someone at RSI is staying on top of these issues.
>>> Not only do we get an IDL which works with standard drivers, but the
>>> 3D support in XFree86 gets improved too! Keep up the good work.
>>
>> I installed Fedora Core 1 (FC1) on a system with a Radeon 9700 and IDL
>> worked OK right out of the box. But the XFree86 log (in /var/log) said
that
>> the X server disabled DRI because the support wasn't there (yet). The
word
>> "yet" encourages me a great deal, but it would be nice to get this card
>> flying now. glxgears ran at about 1000 fps but I had it running at over
>> 3000 fps with ATI drivers on rh8. So, I grab the XFree86 4.3
9000-series
>> "fglrx" drivers from the ATI website. They install with no trouble and
>> there is no sign of the FPE problem, probably because ATI used a
different
>> code base. glxgears is back to 3000+ and IDL runs so fast that I nearly
>> missed seeing the objworld demo in the demo tour because I blinked for
too
>> long. As Ferris once said, "I highly recommend picking one up, if you
have
>> the means".
>>
>> Then I scrounge a Radeon 7000 and am able to reproduce the FPE problem.
I'm
>> back to using the stock FC1 drivers at this point. I've been digging
into
>> the problem since, but haven't nailed it yet. I did learn that two
other
>> applications are experiencing the same problem. I'm fairly convinced
that
>> the problem is related to signal handling.

>
> Thanks again Karl. ATI's linux drivers are well regarded, though
> widely decried for being very late compared to their Windows
> counterparts, and closed source. The 7xxx era of Radeons also isn't
> supported, so we're stuck with the DRI project's drivers (fine, but
> slow, and clearly still containing a few glitches).

Yes. I'll probably end up filing a bug report on XFree86 DRI for the FPE problem. I have gdb'd myself to death in the machine code in the area of interest and I didn't see anything wrong. There must be something going on in a place that I can't see. Some of the code came from Mesa, which I do have the source for, but the rest is proprietary ATI stuff. Without the source code, I can't do much more. The DRI guys have NDA's with ATI for the Radeon code, so maybe they can see the problem.

In the meantime, a tip of the hat to the Mesa guys for providing the env var to skip around the problem.

> Do you also test
> under Linux with the proprietary NVidia drivers?

When I made the changes to IDL for 6.0 to let it work better with the DRI architecture, I tested on a rh9 system with the NVidia drivers.

Karl
