
Subject: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [John Boccio](#) on Sat, 15 Feb 2003 20:58:03 GMT
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Confuguration:

Macintosh G4 733 MHz
768 MB RAM
Mac OSX V10.2.4
IDL V5.6
AGP graphics
NVidia GeForce2 MX card - 32 MB
Apple X11 V0.2.1

Problem:

Set hardware OpenGL rendering in Preferences.

Crashes on any Object Graphics code
including DEMO - Object World
or my own codes.

Works fine with Software Rendering.

Is Hardware OpenGL supposed to work yet?

John Boccio
Department of Physics
Swarthmore College
boccio@swarthmore.edu

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [MKatz843](#) on Sun, 16 Feb 2003 09:43:12 GMT
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> Is Hardware OpenGL supposed to work yet?

Yes. It's working beautifully for me. In fact, it absolutely FLIES, I'm astounded.
Now, when I'm running an intensive IDL graphics routine, I can see from the
"top" command that there's a process called "Xquartz" that I had never
noticed before.

I have a few quick things you might try.

First, make sure you have a ~/.xinitrc file that contains something like
these 2 lines:

```
xterm -sb -bg snow -rw -sl 500 -geometry 80x59+5+190 &  
exec /usr/X11R6/bin/quartz-wm
```

The first one just calls up an xterm window (obviously) and the second makes sure you're running apple's window manager and not some other by default. By "~/.xinitrc" I mean that it should be located in your /Users/yourname/ directory. You'll need to use the terminal window or some other text editor to open/create/modify the file since most of the time the .files are hidden in the finder.

Second, you should have an ~/.Xdefaults file containing these lines.

idl.gr_visual: TrueColor
idl.gr_depth: 24
idl.retain: 1

(Note: I don't think that "Idl" versus "idl" makes a difference here, but .Xdefaults vs. .xdefaults MAY make a difference. Use .Xdefaults) To implement the changes, I think you can just quit X11 and restart it. There should be no need to logout or restart the machine.

Let us know if that works for you.

M. Katz

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [John Boccio](#) on Sun, 16 Feb 2003 17:16:33 GMT
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In article <4a097d6a.0302160143.27bbcb4c@posting.google.com>, MKatz843@onebox.com (M. Katz) wrote:

No luck with these ideas. I already have such file and the look the same as your suggestions.

I removed and reinstalled everything on the 733 MHz system and on a dual 1.25 GHz system.

No luck.

Same problem.

Setting Hardware OpenGL in preferences crashes demo in Object-World etc.

Any other ideas appreciated.

John Boccio

boccio@swarthmore.edu

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Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [David Fanning](#) on Sun, 16 Feb 2003 17:58:29 GMT
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boccio (boccio@swarthmore.edu) writes:

> Any other ideas appreciated.

I *always* suspect the video card driver. Do you have the latest?

Cheers,

David

--

David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [Richard French](#) on Sun, 16 Feb 2003 18:00:16 GMT
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On 2/16/03 4:43 AM, in article
4a097d6a.0302160143.27bbcb4c@posting.google.com, "M. Katz"
<MKatz843@onebox.com> wrote:

>> Is Hardware OpenGL supposed to work yet?
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> Yes. It's working beautifully for me. In fact, it absolutely FLIES, I'm
> astounded.

Previously, you suggested trying demo_tour to show how fast this works. I can't find any documentation for demo_tour - is this the command name? In fact, I can't find any documentation for demo, either, either under IDL commands or in the index under 'demo' - am I missing something obvious?

I can run
IDL> demo
Is there a tour mode that does not require stepping through the individual options?
Thanks!

Dick French

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [Karl Schultz](#) on Tue, 18 Feb 2003 21:34:57 GMT
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This is the first time I've heard of a crash with 0.2.1. It would be interesting to know if it was the X server or IDL that crashes. Both of your postings on this thread just say "crash". If just IDL crashed, you'd pop back to your shell prompt in your xterm. If the X server crashed, all of your X windows would go away, and X would leave your taskbar. This bit of information is very useful for continuing the investigation.

Crashing apps generally leave a crash log file someplace on your system. I'd be happy to take a look at it.

I noticed that you are on OS X 10.2.4. I am on 10.2.3. It is possible that upgrading to 10.2.4 broke something. If X is crashing, then perhaps Apple needs to release an updated beta. I have not seen anything on the Apple X11 mailing list yet. If IDL is crashing, then something changed in 10.2.4 that IDL couldn't deal with. But I think that the more likely scenario is that the X11 beta needs updating to work with 10.2.4 because the low-level code that does the hardware graphics acceleration is much more sensitive to OS changes than applications like IDL. Also, you say that software rendering works, so that makes it even less likely that IDL is having trouble with 10.2.4.

How hard is it for you to stay at 10.2.3? The X11 beta code may simply require 10.2.3 and only 10.2.3.

Karl.

"boccio" <boccio@swarthmore.edu> wrote in message
news:boccio-7D1372.12163216022003@cnews.newsguy.com...
> In article <4a097d6a.0302160143.27bbcb4c@posting.google.com>,
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> John Boccio
> boccio@swarthmore.edu

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [Karl Schultz](#) on Wed, 19 Feb 2003 00:34:40 GMT
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"boccio" <boccio@swarthmore.edu> wrote in message
news:boccio-7D1372.12163216022003@cnews.newsguy.com...
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> John Boccio
> boccio@swarthmore.edu
>
You might also try running IDL without the IDLDE. Richard French said that
he had better luck with hw accel without using the IDLDE. I don't know why
(yet).

Karl

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [Karl Schultz](#) on Wed, 19 Feb 2003 16:12:01 GMT
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"boccio" <boccio@swarthmore.edu> wrote in message
news:boccio-7D1372.12163216022003@cnews.newsguy.com...
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I dug a bit more and found that the IDLDE is crashing with the hw accel OpenGL. I have to admit that I didn't suspect this, thinking that if command line IDL worked with hw accel, then the IDLDE should too.

I'll submit a bug report to Apple. Hopefully they'll do another beta release and this fix will be part of it. It turns out that this particular problem is very similar to the first problem (in beta 0.1) that they fixed that made command line IDL work. So, I have a feeling that they have a bit more work to do in this area. All I can suggest is using software rendering if you must use the IDLDE.

If anyone is interested, here is the stack trace from the crash log. The line between frames 10 and 11 is the line between the IDL and the Apple code. The DRI (Direct Rendering Infrastructure) is a mechanism for OpenGL client programs that allows fast rendering on a local X server. In a "pure" sense, the client program would encode OpenGL commands into GLX protocol, send them to the server, which then decodes them and draws. This is horribly inefficient, so the DRI exists to provide a direct path to the 3D drawing code that runs in cooperation with the X server process.

So, if your IDLDE crashes and your log (in /Library/Logs/CrashReporter) looks like this, then you know what is going on.

Thread 0 Crashed:

```
#0  0x936fb4bc in CGSLockShmemLockWithTimeout
#1  0x93701d7c in CGSShmemRWLockLockForReading
#2  0x937a127c in CGSGetOnlineDisplayList
#3  0x90a9558c in cglTrimDeviceMask
#4  0x90a966ec in cglConvertAttribs
#5  0x90a96d50 in cglChoosePixelFormat
#6  0x90a97348 in CGLChoosePixelFormat
#7  0x960a1058 in allocate_context
#8  0x960a10bc in XAppleDRIGetIndirectContext
#9  0x960a3cb8 in XAppleDRIUseIndirectDispatch
#10 0x96087afc in glXMakeCurrent
-----
#11 0x00122854 in XGLMakeCurrent
#12 0x0085fe68 in igSrcDestAcquireReleaseDC
#13 0x0085fdb0 in igSrcDestBeginDraw
#14 0x008603f4 in IDL_GrSrcDestDraw
```

#15 0x00a02bb0 in interpreter
#16 0x00b3b1f0 in IDL_Executive
#17 0x00a060f0 in IDL_InterpCallFromSysproc
#18 0x00a91960 in call_user_cb
#19 0x00a98bf4 in internal_widget_event
#20 0x00a98dd4 in IDL_widget_process_events
#21 0x00a02bb0 in interpreter
#22 0x00b3b1f0 in IDL_Executive
#23 0x0075d864 in IDL_Main
#24 0x00002814 in main
#25 0x000023ac in _start
#26 0x000021dc in start

Subject: Re: X11 0.2.1,OpenGL and IDL object Graphics
Posted by [Karl Schultz](#) on Tue, 25 Feb 2003 15:28:16 GMT
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"Karl Schultz" <kschultz_no_spam@rsinc.com> wrote in message
news:b30ac4\$lg\$1@news.rsinc.com...

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> that made command line IDL work. So, I have a feeling that they have a
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> more work to do in this area. All I can suggest is using software
rendering
> if you must use the IDLDE.

Here is another workaround. It appears that the root cause of the crash is
that the IDLDE detaches itself from the controlling terminal process. This
messes up the X and GL connections during the process fork. The Apple guys
are looking at it.

You can add:

```
idlde*backgroundIdl: False
```

to your .idlde file to keep the idlde from forking. This will let you use
hardware acceleration while using the idlde.

Karl
