Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by David Fanning on Thu, 27 Jan 2005 18:51:03 GMT
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=?ISO-8859-1?Q?J=E9r=F4me_Boivin?= writes:

> Is there someone who can tell me how to activate hardware rendering in
> OpenGL with IDL ? Whatever I set RENDERER=0 or RENDERER=1, it seems to
> be always the software renderer that is used (it's so slow !). Is there
> something to activate, or a dll to install ? Please help me !
>
> JB
>
> PS : I'm using IDL on Windows plateform...

As it happens, the software renderer, for some things,
is even *faster* than hardware rendering!

There are a couple of places to turn hardware rendering
on. The default setting is under File->Preferences menu
on the IDLDE. Choose the Graphics tab and select hardware
rendering. Remember you set it though, because when things
start going south on you, that is the first place to look
for the problem. :-)

Then, rendering options can be set at the IDLgrWindow
level (draw widgets, too). Be sure all these options
are set to hardware rendering (RENDERER=0).

Once you have done all that, just hope and pray
everyone who runs your software will have decent
graphics cards, or you will be running down problems
forever. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by on Thu, 27 Jan 2005 20:52:39 GMT
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Thank you for your answer, but I had already done that
(File->Preferences and RENDERER=0), and if I move (with Trackball
object) my 3D model, it's as slow as if I put RENDERER=1, and my CPU
works 100%, so I think it's Mesa3D which works ! My video card is a
Nvidia Geforce FX 5700, and others win32 openGL applications works fine.
  So it's not a driver pb... :(I don't understand why IDL Virtual
Machine doesn't activate hardware rendering...

David Fanning a ï¿½crit :
> =?ISO-8859-1?Q?J=E9r=F4me_Boivin?= writes:
>
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> Cheers,
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> David
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Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by David Fanning on Thu, 27 Jan 2005 21:06:49 GMT
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=?ISO-8859-1?Q?J=E9r=F4me_Boivin?= writes:

> (I don't understand why IDL Virtual
> Machine doesn't activate hardware rendering...

Probably because they would prefer to show off their software
running correctly (albeit slowly) rather than incorrectly (but fast).
:-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by netnews.comcast.net on Fri, 28 Jan 2005 06:13:50 GMT
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David Fanning wrote:
:=?ISO-8859-1?Q?J=E9r=F4me_Boivin?= writes:
>
>
>> (I don't understand why IDL Virtual
>> Machine doesn't activate hardware rendering...

It does. You must have a problem with your configuration.

Are you running dual monitors (some nVidia dual monitor configurations
will not be accelerated on the secondary monitor)? You do know that
volume rendering is not accelerated? You are rendering directly to an
IDLgrWindow and not to a IDLgrBuffer and then to the window (IDL always
renders to the buffer via software renderer)?

You will always see your processor pegged at 100% as IDL is very
processor bound in practice but this doesn't mean that it isn't
rendering via openGL.

A simple test would be to turn on your adapters anti-aliasing and render
a simple IDLgrPolygon object using XOBJVIEW. Inspect the object for

jaggies. Turn it off and perform the same test. If your adapter is working the difference between the two will be obvious. (you need to restart IDL after changing the AA state).

> Probably because they would prefer to show off their software
> running correctly (albeit slowly) rather than incorrectly (but fast).
> :-)

David, I think you are living in the 90's. You're still not using that Quadro you bought 3 years ago are you???

There are very few if any issues I have run into with hardware rendering in the past few years and recently I encountered the problem the other way around.

And as for speed, unless you have a very unbalanced system you should always render faster with hardware rendering enabled. As an added bonus, image quality is often better since most modern graphics adapters perform anti-aliasing.

-Rick

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by David Fanning on Fri, 28 Jan 2005 06:31:51 GMT
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Rick Towler writes:

> David, I think you are living in the 90's. You're still not using that
> Quadro you bought 3 years ago are you???

More like the 70's lately. My wife and I wanted to drink a glass of wine and watch a romantic movie the other night when the boys were gone, but neither one of us could figure out how to work the damn TV. :-(

I'm thinking of becoming a Luddite.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by on Fri, 28 Jan 2005 13:19:49 GMT
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Thanks for your answer. No, I have no dual screens, and I render
directly to an IDLgrWindow and not to an IDLgrBuffer. I will perform the
anti-aliasing test, and I'll see...

I'm using :
draw3dID = Widget_Draw(tab3DgaucheID, xsize=512, ysize=512, RENDERER=0,
GRAPHICS_LEVEL=2, /BUTTON_EVENTS, /MOTION_EVENTS, /EXPOSE_EVENTS,
RETAIN=2)
and not directly an IDLgrWindow object, is there a difference ?

JB

Rick Towler a ï¿½crit :
> David Fanning wrote:
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> always render faster with hardware rendering enabled. As an added
> bonus, image quality is often better since most modern graphics adapters
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>
>
> -Rick

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by on Fri, 28 Jan 2005 14:26:21 GMT
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Ok, I think I understand... when you set RETAIN=2 in Widget_Draw(), then it desactivate hardware rendering !!! With RETAIN=0, I must control the drawing update, but hardware rendering is back ! Is it a bug, or I misunderstood what RETAIN keyword means ? Thanks for your help...
Regards,

J. Boivin
(For those who understand frenchies, http://jboivin.free.fr/visualisDicom/)

---------- ----------
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>
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> -Rick

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by David Fanning on Fri, 28 Jan 2005 14:40:57 GMT
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=?ISO-8859-1?Q?J=E9r=F4me_Boivin?= writes:

> Ok, I think I understand... when you set RETAIN=2 in Widget_Draw(), then
> it desactivate hardware rendering !!! With RETAIN=0, I must control the
> drawing update, but hardware rendering is back ! Is it a bug, or I
> misunderstood what RETAIN keyword means ?

I doubt hardware rendering is deactivated, but having IDL maintain backing store definitely means that IDL has to render each scene twice, once to the window and once to the restoring pixmap. No doubt it would be slower. And, depending upon how this is implemented, it may even be much slower.

In the early days, setting RETAIN=2 on an object graphics window caused an error. These days it is allowed, but still seems rather pointless, since you carry around the means to restore the window in your view anyway. No sense carrying it around twice! As a rule, I always set RETAIN=0 in all object graphics windows.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: IDL 6.1.1 : how to activate opengl in hardware ?
Posted by Karl Schultz on Fri, 28 Jan 2005 18:05:28 GMT
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"David Fanning" <davidf@dfanning.com> wrote in message
news:MPG.1c63fce3a2851d259898f3@news.frii.com...
> =?ISO-8859-1?Q?J=E9r=F4me_Boivin?= writes:
>
>> Ok, I think I understand... when you set RETAIN=2 in Widget_Draw(), then
>> it desactivate hardware rendering !!! With RETAIN=0, I must control the
>> drawing update, but hardware rendering is back ! Is it a bug, or I
>> misunderstood what RETAIN keyword means ?

RETAIN = 2 implies that IDL will try to repair damaged windows on its own without expecting the application to redraw them. The beahvior you see is not a bug. Read on for more details.

> I doubt hardware rendering is deactivated, but having IDL
> maintain backing store definitely means that IDL has to
> render each scene twice, once to the window and once to
> the restoring pixmap. No doubt it would be slower. And,
> depending upon how this is implemented, it may even be
> much slower.

What actually happens here on a Windows platform is that IDL passes a Windows bitmap (DIB) to OpenGL and tells OpenGL to render into it (once) instead of a window. OpenGL reverts to its software renderer to accomplish this. Then the DIB is blitted to the window when it needs to be drawn or when repairing window damage. Effectively, you end up with software rendering.

In a way, the RENDERER property isn't described all that accurately. Rather than the 0/1 values meaning hardware/software, it is a tiny bit more accurate to say OpenGL/Mesa. The hardware/software meaning is a bit easier for most people to understand and works most of the time, this situation being one of the exceptions. Another exception can occur if you have a really basic video card and the supplied OpenGL implementation ends up doing everything in software.

I suppose another way to think of it is that RENDERER=0 means use hardware acceleration whereever possible, and RENDERER=1 means always use the standard, stable, and consistent software renderer.

If you have a nice graphics card, you're really shortchanging yourself if you use only software rendering. The later nVidia and ATI cards run IDL very well and the drivers are updated frequently. The frequent driver updates *can* be a problem. For example, I updated my ATI drivers about a month ago and that caused some IDL object graphics text to stop displaying. I reverted back to the previous driver to recover. I then installed an updated driver that came out soon after that , and everything looked good. So, you do have to be a bit careful with drivers.

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> window caused an error. These days it is allowed, but still
> seems rather pointless, since you carry around the means
> to restore the window in your view anyway. No sense carrying
> it around twice! As a rule, I always set RETAIN=0 in all
> object graphics windows.

Yep!