
Subject: Why are iTools so slow?

Posted by [Mark Hadfield](#) on Thu, 30 Sep 2004 00:05:32 GMT

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The subject line says it, really.

I kind of like the idea of iTools, and I'd like to tap into the framework for my own tools. (I've started to use property-sheet widgets, but nothing else.) If I do

```
IDL> fsc_surface, dist(100)
```

or

```
IDL> mgh_new, 'mgh_surface', dist(100)
```

I can rotate the surface with the mouse smooth and fast (I'm guessing 20 or more redraws per second). But if I do

```
IDL> isurface, dist(100)
```

and choose the little rotate button then rotate the surface, each redraw takes ~ 1 second. A surface with more points than that is unusable. (Actually, cancel that last thought, I'm not sure if iTool speed generally does deteriorate very fast with the number of vertices or pixels in the graphic. Which is interesting.)

I thought it might be something to do with drag quality, so I reduced the "Default Drag Quality" (in "File/Preferences") to "Low". So now the surface goes wire-frame when I drag it. But it's still really slow.

Is it slow for you too?

Why?

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Subject: Re: Why are iTools so slow?

Posted by [Rick Towler](#) on Mon, 04 Oct 2004 21:24:00 GMT

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Randall Skelton wrote:

> I agree with the above... I think you have a hardware problem.

>
> For the record, I don't recommend any ATI cards for linux these days.
> When they work, the drivers give 30-50% of the performance as their
> windows drivers. When they don't work, well, they *really* don't work:
>
> <http://linux.slashdot.org/article.pl?sid=04/09/03/1313221&am p;tid=152&tid=106>
>
> I'm planning to replacing my defunct Radeon 9600Pro with a 6600gt:
>
> <http://tech-report.com/reviews/2004q3/geforce-6600gt/index.x ?pg=25>
> <http://usalug.org/phpBB2/viewtopic.php?t=3989&start=15>
>

A timely post, Randall :)

Today the chaps at anandtech.com posted an article looking at the state of 3d in linux (They too had many problems with the ATI drivers in linux.) Mind you these guys are gamers so they didn't look at professional 3d cards but at least they have a few numbers for linux users to mull over. If you poke around on the final page there are some links to windows #'s for some linux <-> windows comparisons.

<http://anandtech.com/linux/showdoc.aspx?i=2229&p=1>

Not to be called an NVidia fanboy, ATI is working hard to provide better linux drivers:

<http://www.theinquirer.net/?article=18664>

Subject: Re: Why are iTools so slow?

Posted by [Mark Hadfield](#) on Tue, 05 Oct 2004 00:29:37 GMT

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Thanks for all the feedback, guys.

You may recall that my original posting said that the iTools system on my machine was very slow.

Marshall Perrin and David Fanning said, no, it wasn't slow for them, and perhaps it was a hardware renderer issue. (How many times has that advice been given on this newsgroup?)

Well it turned out to be good advice again. I changed the default Object Graphics renderer (in File/Preferences/Graphics) to "Software" and iTools speed improved drastically. So there is a hardware problem of

some sort (I have an Asus 8170 adapter with an NVidia GeForce MX 440 chip.)

Rick Towler said that GeForce MX chips suck. Jim Pendleton (in email) suggested upgrading to the latest driver.

I'm still puzzled, because with this graphics card (which admittedly sucks) I generally find OG redraws are somewhat faster with the hardware renderer than with the software one. Not *much* faster, as one might hope, but definitely not slower, as the iTools suggest.

I did a bit of profiling and found most of the time is being taken in line 625 of `idlgrscene__define`, which is

```
self->IDLgrScene::Draw, oDest
```

That line is already surrounded by some timing code, so I added a statement to print out the time. With the software renderer, the drawing time for my 100 x 100 surface is 0.03-0.06 seconds; with the hardware renderer it is 0.015 seconds (the granularity of the Windows timer) but occasionally much more, up to 1 second. And here's the other funny thing with the hardware renderer: if I sit there twirling the scene around with the mouse, the redraws eventually become consistently fast! And that lasts (as far as I can tell) for the remainder of the IDL session. Some sort of caching is involved here, I guess.

So I was sitting there twirling my itool around, when I got a black-screen crash, something I've never encountered with this machine in 2 years. Ouch!

I did try upgrading to the latest driver. This produced no improvement, I started getting floating-point exceptions as I moved the mouse around over the iTool background and I got another black-screen crash. So I reverted to the old driver and decided to stick with the safe, slowish, predictable IDL software renderer in future.

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