Subject: Re: Xinteranimate "Unable to create pixmap" error Posted by Joe Means on Thu, 04 Nov 1999 08:00:00 GMT

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Here is more info on this problem. The last two times I ran it, in response to David's comments, it hung on 106 and 107 frames. Regarding memory, there is 1Gb of system RAM and 1Gb of swapfile [virtual memory] space. Performance monitor showed that there was still 630Mb free RAM and 910Mb free swapfile space when it choked, and it had used up ca. 3000Mb of RAM when running. This works when I try to create smaller animations. Interestingly, when, in the IDL Devel Env., I hit the Reset button [includes Heap\_GC, /Verbose] this recovered about half of the memory drawdown from the run, ca. 160Mb. Killing IDE recovered the rest, ca., 140Mb.

I'd sure like to find that it is just a programming error.

Can I program around this by specifically putting the pixmaps in system RAM and animating from there by loading them into the IDL window just as they are needed?

Joe Means

----Original Message-----

From: Randall Frank [mailto:frank12@llnl.gov] Sent: Thursday, November 04, 1999 5:37 PM

To: Joe Means

Cc: davidf@dfanning.com

Subject: Re: Xinteranimate "Unable to create pixmap" error

You've run into one of the interesting things about Windows NT. Under NT, device dependent pixmaps are allocated against the video driver. The video driver can choose to place them on the card or in system RAM. This is driver dependent. Now, under NT (unlike the Mac and Unix) driver graphics resources cannot page so you are limited to system memory no matter what (virtual memory cannot be used for these pixmaps). I would like to see the commands you are using to create this movie. I have seen 1/2 GB movies run just fine in boxes with that much RAM. I am interested to see if any of the frames are allocated or if it fails with the first frame (some drivers place restrictions on device dependent pixmaps). Also, you might want to watch the system with the task manager to see what the memory state is when the failure occurs. If there is not enough free swappable pages, you can also run into a problem.

So, you can make big movies under NT, you may be running into a driver limitation (suprising w/an nVidia card), a separate

system limit (swappable pages) or user error. Hope it helps. rjf. Randall Frank | Email: rjfrank@llnl.gov Lawrence Livermore National Laboratory | Office: B4525 R8019 P.O. Box 808, Mailstop:L-560 | Voice: (925) 423-9399 Livermore, CA 94550 | Fax: (925) 422-6287 David Fanning wrote: > Joe Means (means@fsl.orst.edu) writes: >> I run IDL 5.21 on a PC under WinNT. >> >> While running Xinteranimate.pro I got the error: >> % WINDOW: Unable to create pixmap. >> % Execution halted at: CW\_ANIMATE\_LOAD 652 >> c:\win32apps\RSI\IDL52\lib\cw animate.pro >> >> This animation used about 15Mb of memory [according to Performance >> monitor] before giving me this error. I understand the error comes from >> running out of RAM on my video card, right? My video card is a Viper >> v770 with 32Mb ram. >> >> My PC has 1Gb RAM, much more than is needed to run this animation. I >> got this much RAM specifically to be able to run large animations in >> IDL. How can I get this animation to run? I also need to be able to >> get animations to run for which the file containing the stored images is >> about 60Mb up to 300Mb. Do modifications need to be made to >> Xinteranimate and its subroutines to use regular RAM instead of video >> RAM? > > I'm on some shaky ground here, because I don't know > the details as well as I would like. But my understanding is > that most operating systems will swap video RAM memory > with disk memory when the video RAM fills up. I would > have thought you were running into a virtual memory

- > limitation here. Do you know how much virtual memory
- > you have? (System control panel under the Performance
- > tab.)

>

- > Also, what frame is this that you choke on? Is it
- > always the same? Can I see the code used to load
- > the XInterAnimate pixmaps?

>

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

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In answer to your questions below:
--Virtual memory [pagefile size] is just over 1Gb
-- It does choke at the just about the same place.
-- The code used to load the images into Xinteranimate is:
;;;---snip---
;nx= about 700 & ny= about 400 & nframes = 180
;----- Initialize loop to produce images
images = Bytarr(nx,ny,nframes)
;initialize animation
Xinteranimate, set=[nx,ny,nframes], /track, title=title
;Set up 2D arrays with points that cover the whole range of data
to set the axies ranges in Surface
 zz_{-} = Dblarr(2,2) & xx_{-} = Dblarr(2,2) & xx_{-} = Dblarr(2,2)
 zz_{-} = [[zr[0], zr[1]], [zr[1], zr[0]]]
 xx_{-} = [ [xr[0], xr[1]], [xr[0], xr[1]] ]
 yy_{-} = [ [yr[0], yr[0]], [yr[1], yr[1]] ]
:-----LOOP TO CREATE IMAGES ------
FOR i=0,nframes-1 DO BEGIN
 Erase ; Erase the window to prepare for next plot
;;;---snip--- --- creat the axies and plot the data here.
 ;Plot the data. Psym: 3=dot, 8=usersym
 Plots, sxyz[xc,*], sxyz[yc,*], sxyz[zc,*], /T3d, $
   Psym=psym, Symsize=symsize, Color=datacolors
 ;Read image from window and add to animation
 image = Tvrd(x0,y0,nx,ny,!d.window)
 images[*,*,i] = image
```

```
Xinteranimate, Frame=i, Image=image
 anglez = (anglez+delta_angle) mod 360
 ENDFOR
David Fanning wrote:
> Joe Means (means@fsl.orst.edu) writes:
>
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Subject: Re: Xinteranimate "Unable to create pixmap" error Posted by davidf on Thu, 04 Nov 1999 08:00:00 GMT

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Subject: Re: Xinteranimate "Unable to create pixmap" error Posted by davidf on Fri, 05 Nov 1999 08:00:00 GMT

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- > to David's comments, it hung on 106 and 107 frames. Regarding memory, there
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- > and animating from there by loading them into the IDL window just as they are
- > needed?

I'll see if I can get more specific information about this, but I have a feeling we are running up against some kind of limitation in either the graphics driver or NT itself. I tried creating 700 by 400 windows. With my graphics driver with 32MB RAM and 1GB swapfile, I was able to create 150 pixmap windows before I got the "unable to create pixmap window" message.

Since I don't have any fix, here are a couple of suggestions. First, I presume you have thought about smaller windows and rejected that. You appear to have a fairly robust machine there, Joe. I presume you have Gigs and Gigs of disk space. :-)

So I think what I would do is write these screen dumps out to a file. Then I would do the animation from the file using the Associated Variable method of reading a single image from the file. Some experiments last night on my machine (not as nice as yours unfortunately) leads me to believe that this can produce an animation with acceptable results.

I think I would start with my XMOVIE program and modify it to read from an associated variable rather from memory if I was tackling this job.

http://www.dfanning.com/programs/xmovie.pro

Cheers,

David

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