Subject: writing large 3D data file fails
Posted by dorthe on Wed, 07 Oct 2009 12:17:20 GMT
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One more question:

I have a fltarr of 4008x4008x865 voxels that I'm trying to write to a
file using

GET_LUN, lun
OPENW, lun, '/nfs/blahblah.dat'
WRITEU, lun, volume
CLOSE, lun
FREE_LUN, lun

this normally works like a charm for writing a simple binary data
file, but for this large dataset, I can't get it to work? The file
that get's written is way too small (about 3.5 GB - if I write it as a
netDCF it is ¨21 GB, which is more like the right size)

Any ideas what goes wrong here?
Thanks,
Dorthe

Subject: Re: writing large 3D data file fails
Posted by Mark[1] on Wed, 14 Oct 2009 21:57:49 GMT
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On Oct 13, 10:58 pm, Dorthe Wildenschild
> Thanks for trying to help, - I really don't know what's wrong, but
> instead of working out the kinks of IDL, I may just write the volume
> as 3 or 4 smaller sections... - a bit sad though.
> Cheers,
> Dorthe

If that's enough to make you sad, you must be new around these parts.
My word, I could tell you stories that could make you weep. I'm green
with envy that you have a system on which you could even consider
writing a 50 GiB file in one go!

WRITEU doesn't add any leading or trailing bytes by default, so you
can write it in as many chunks as you like, as long as you get the
order right. Just loop over the outer (final) dimension.

Subject: Re: writing large 3D data file fails

Posted by A.R. on Mon, 02 Nov 2009 22:17:23 GMT
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On Oct 14, 1:57 pm, Mark <mark.h...@gmail.com> wrote:
> On Oct 13, 10:58 pm, Dorthe Wildenschild
>
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> WRITEU doesn't add any leading or trailing bytes by default, so you
> can write it in as many chunks as you like, as long as you get the
> order right. Just loop over the outer (final) dimension.

Hello,

I had a similar problem that I posted to an earlier discussion:
http://groups.google.com/group/comp.lang.idl-pvwave/browse_t
hread/thread/c236bbf7a54085ee/0952d20b84caae00?lnk=gst&q
=segmentation+fault#0952d20b84caae00

I was also trying to writeu to a volume with larger than 2^31
elements, during which IDL quit due to a segmentation fault. The best
answer I got was that it's just something finnicky with IDL, and that
I should write a bug report to ITTVIS. As a workaround, I wrote a
small piece of code which writes my volume in individual slices to one
large file:

```
pro write_bindatxl,fname,volume, nz
close,10
openw,10,fname
for i = 0,(nz-1) do writeu,10,volume[*,*,i]
close,10
end
```

So, this will work to write your data to one file, but the next issue
crops up if you want to re-open it and work with it again. Trying to
'readu' a volume with more than 2^31 elements also crashes IDL due to
a segmentation fault.

If you can figure out how to re-open it, then you'll really make my
day! Still can't figure that one out . . .

Subject: Re: writing large 3D data file fails
Posted by penteado on Mon, 02 Nov 2009 22:31:50 GMT
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On Nov 2, 8:17 pm, "A.R." <alrom...@gmail.com> wrote:
> On Oct 14, 1:57 pm, Mark <mark.h...@gmail.com> wrote:
>
>
>
>> On Oct 13, 10:58 pm, Dorthe Wildenschild
>
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> 'readu' a volume with more than 2^31 elements also crashes IDL due to
> a segmentation fault.

>
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> day! Still can't figure that one out . . .

Why can't you read it with readu the same way you used writeu?

Subject: Re: writing large 3D data file fails
Posted by David Fanning on Tue, 03 Nov 2009 01:51:41 GMT
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A.R. writes:

> So, this will work to write your data to one file, but the next issue
> crops up if you want to re-open it and work with it again. Trying to
> 'readu' a volume with more than 2^31 elements also crashes IDL due to
> a segmentation fault.
>
> If you can figure out how to re-open it, then you'll really make my
> day! Still can't figure that one out . . .

If you can get by reading it a slice at a time
(from anywhere in the stack), then the Associated
Variable method is the way to go. Suppose each
"slice" is a 4000 by 5000 floating point array:

```
  Openr, lun, 'myfile.dat', /Get_Lun
  data = Assoc(lun, FltArr(4000,5000))
```

Now, if you wanted the 35th slice:

```
  slice = data[34]
```

When you are done with it, just close it.

```
  Free_Lun, lun
```

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")