
Subject: writing large 3D data file fails
Posted by [dorth](#) on Wed, 07 Oct 2009 12:17:20 GMT
[View Forum Message](#) <> [Reply to Message](#)

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,
Dorth

Subject: Re: writing large 3D data file fails
Posted by [Mark\[1\]](#) on Wed, 14 Oct 2009 21:57:49 GMT
[View Forum Message](#) <> [Reply to Message](#)

On Oct 13, 10:58 pm, Dorth 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,
> Dorth

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

[View Forum Message](#) <> [Reply to Message](#)

On Oct 14, 1:57 pm, Mark <mark.h...@gmail.com> wrote:

> 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.

Hello,

I had a similar problem that I posted to an earlier discussion:

http://groups.google.com/group/comp.lang.idl-pvwave/browse_thread/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 finnickily 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
[View Forum Message](#) <> [Reply to Message](#)

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
>
>>> 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.
>
> Hello,
>
> I had a similar problem that I posted to an earlier
discussion:http://groups.google.com/group/comp.lang.idl-pvwave/browse_thread/thr...
>
> 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 finnick 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 . . .

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
[View Forum Message](#) <> [Reply to Message](#)

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.")
