Subject: Re: Can't get out of define mode in ncdf, not specific to variable.
Posted by David Fanning on Fri, 16 Nov 2012 00:53:08 GMT
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neleh.mac writes:

> I am very confused by this, please can you help?

You are in good company. We are the soul of confusion here!

But, I think you need to report this as a bug to Exelis,
and tell us what they think about it.

Cheers,

David

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

Subject: Re: Can't get out of define mode in ncdf, not specific to variable.
Posted by Chip Helms on Fri, 16 Nov 2012 18:46:37 GMT
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This is a bit of a shot in the dark (I don't currently have easy access to a copy of IDL, hopefully that'll change in the next couple days) but this reminds me of when I forget to use free_lun when opening files in a loop. Could it be possible that IDL is storing the history of the modes (i.e. def and data) and simply runs out of reference space?

You might try using 'ncdf_control, cdfid, /sync' to update the file on the disk before you use 'ncdf_control, cdfid, /redef'. When I've made netcdf files in the past I've always defined everything before moving on to store the data, so I've never run into this sort of situation myself. I look forward to hearing Exelis' explaination.

Cheers,
Chip

On Thursday, November 15, 2012 5:57:17 PM UTC-5, neleh.mac wrote:
> So I am using IDL to read in ncdf data, and write out (to a new file) the processed data. So I go to define mode, set up the variable, add some attributes, switch to data mode, stick in the data, and then go back to define for the next one.

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> e.g.
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> ncid = ncdf_create(file_name, /CLOBBER)
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> londim = ncdf_dimdef(ncid, 'longitude_dim', 144)
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> latdim = ncdf_dimdef(ncid, 'latitude_dim', 91)
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>
> vid = ncdf_vardef(ncid, 'emission', [londim,latdim], /float)
>
> ncdf_attput, ncid, vid, 'long_name', "Some emissions"
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> ncdf_control, ncid, /ENDEF
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>
> ncdf_control, ncid, /REDEF
>
>
>
> vid = ncdf_vardef(ncid, 'emission2', [londim,latdim], /float)
>
> ncdf_attput, ncid, vid, 'long_name', "Some emissions 2"
>
> ncdf_control, ncid, /ENDEF
>
> ncdf_varput, ncid, vid, emiss_dat2
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> ... etc.
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> This works fine for several variables, over and over, until a certain point in the code and then at it will not get out of define mode. I commented out that particular part of the code where it was falling over, and got it to work fine (but my output file now has one less variable).
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> Now the weird part.

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> It's like it's failing after going into define mode a certain number of times, it's not specific to any variable I'm trying to write, it just always fails on the nth one, regardless of what it is. I've swopped round the order it writes them to the file, and they all get written, just not if they happen to be at a certain point in the order. I have tried removing attributes from the variables but this doesn't seem to have any effect. I am very confused by this, please can you help?

Subject: Re: Can't get out of define mode in ncdf, not specific to variable.
Posted by Paul Van Delst[1] on Fri, 16 Nov 2012 23:25:30 GMT
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How many variables are you writing? What version of IDL? What version of netCDF?

If you are writing lots of variables, there used to be a limit to the total number (in older netcdf's at least. I think it was 300).

Complete shot in the dark.....

On 11/15/12 17:57, neleh.mac wrote:
> So I am using IDL to read in ncdf data, and write out (to a new
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> vid = ncdf_vardef(ncid, 'emission2', [londim,latdim], /float)

> ncdf_attput, ncid, vid, 'long_name', "Some emissions 2"
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Subject: Re: Can't get out of define mode in ncdf, not specific to variable.
Posted by Fabzi on Sat, 17 Nov 2012 03:35:41 GMT
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On 11/17/2012 12:25 AM, Paul van Delst wrote:
> How many variables are you writing? What version of IDL? What version of
> netCDF?

Also, before NCDF4 (7.1 patched and IDL8+), files could not be larger than 2Gb. If you attempt to define to many variables that will make the file larger than 2Gb (NCDF knows how big a file is going to be since you define the size of your variables first) this could also cause such an error...

> If you are writing lots of variables, there used to be a limit to the

> total number (in older netcdf's at least. I think it was 300).
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> On 11/15/12 17:57, neleh.mac wrote:
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>> vid = ncdf_vardef(ncid, 'emission2', [londim,latdim], /float)
>> ncdf_attput, ncid, vid, 'long_name', "Some emissions 2"
>> ncdf_control, ncid, /ENDEF
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>> ... etc.
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Subject: Re: Can't get out of define mode in ncdf, not specific to variable.
Posted by neleh.mac on Mon, 19 Nov 2012 19:46:34 GMT
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Thanks for your suggestions.

Ok, I tried Chip's suggestion of syncing, but I still run into the problem.

Paul, I am writing around 30 variables and have around 20 dimensions defined, so I don't think this is the problem.

However, the file I am writing will be just larger than 2Gb, so Fab this looks like the most likely candidate for the problem. However, I have read that if I am using netcdf 3.6 or higher it should be ok. (I am using netcdf 3.6.3 and IDL 8). Is there something else I'm missing with the setup?

FYI, I also tried writing and closing the file part way through so that it was opened up again and less than 2Gb was appended and written second time round, but I still encounter the error.

Still confused, if anyone has any more suggestions I'd really appreciate it :-)

On Friday, November 16, 2012 10:35:45 PM UTC-5, Fab wrote:
> On 11/17/2012 12:25 AM, Paul van Delst wrote:
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