Subject: NetCDF version in IDL 8.6?
Posted by Kenneth Bowman on Wed, 01 Mar 2017 19:59:43 GMT
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Can someone run

    IDL> help, /dlm

and tell me what version of netCDF is included with IDL 8.6? We are holding off on upgrading to 8.6 or I would do it myself.

We are having a recurrence of an old problem

    % NCDF_CONTROL: Attempt to take the file out of define mode (ENDEF) failed. (NC_ERROR=-101)

with random crashes when creating netCDF files in 8.4 and 8.5, and I am wondering if the netCDF release is newer than in earlier versions of IDL.

IDL 8.4 and 8.5 both say the netCDF version is 4.3.2. The current release is 4.4.1.1.

Thanks, Ken

Subject: Re: NetCDF version in IDL 8.6?
Posted by Lajos Foldy on Wed, 01 Mar 2017 20:48:43 GMT
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On Wednesday, March 1, 2017 at 8:59:44 PM UTC+1, k-bo...@tamu.edu wrote:
> Can someone run
>
>   IDL> help, /dlm
>
> and tell me what version of netCDF is included with IDL 8.6? We are holding off on upgrading to 8.6 or I would do it myself.
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> with random crashes when creating netCDF files in 8.4 and 8.5, and I am wondering if the netCDF release is newer than in earlier versions of IDL.
>
> IDL 8.4 and 8.5 both say the netCDF version is 4.3.2. The current release is 4.4.1.1.
>
> Thanks, Ken

** NCDF - IDL NetCDF support (not loaded)
   Version: 4.3.2, Build Date: NOV 21 2016, Source: Exelis Visual Information Solutions, Inc.
   Path: /usr/local/harris/idl86/bin/bin.linux.x86_64/idl_netcdf.so

regards,
Lajos

Subject: Re: NetCDF version in IDL 8.6?
Posted by Kenneth Bowman on Wed, 01 Mar 2017 21:03:33 GMT
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> ** NCDF - IDL NetCDF support (not loaded)
>   Version: 4.3.2, Build Date: NOV 21 2016, Source: Exelis Visual Information Solutions, Inc.
>   Path: /usr/local/harris/idl86/bin/bin.linux.x86_64/idl_netcdf.so
>
> regards,
> Lajos

Thanks, Lajos. It looks like the problem may be happening in 8.4, but not in 8.5 (despite being the same version of netCDF). Will do further testing.

Ken

Subject: Re: NetCDF version in IDL 8.6?
Posted by Kenneth Bowman on Thu, 02 Mar 2017 19:13:35 GMT
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On Wednesday, March 1, 2017 at 3:03:35 PM UTC-6, k-bo...@tamu.edu wrote:
>> ** NCDF - IDL NetCDF support (not loaded)
>>   Version: 4.3.2, Build Date: NOV 21 2016, Source: Exelis Visual Information Solutions, Inc.
>>   Path: /usr/local/harris/idl86/bin/bin.linux.x86_64/idl_netcdf.so
>>
>> regards,
>> Lajos
>
> Thanks, Lajos. It looks like the problem may be happening in 8.4, but not in 8.5 (despite being the same version of netCDF). Will do further testing.
>
> Ken

Unfortunately, the problem is not resolved in IDL 8.5 (and I expect in 8.6, which uses the same version of netCDF).

After much trial and error testing, the problem appears to be linked to use of the CHUNK_DIMENSIONS keyword when creating netCDF-4 files. When we omit

CHUNK_DIMENSIONS, the problem does not occur.   In our case all the variables have no unlimited dimensions, so when CHUNK_DIMENSIONS is omitted the chunk size is the entire variable (assuming the docs are correct).

Contrary to the IDL docs, however, gzip compression *does* work when the CHUNK_DIMENSIONS keyword is omitted.

Fortunately for us, omitting the CHUNK_DIMENSIONS keyword will not cause any issues with our files.

The versions of netCDF and HDF5 that are currently included with IDL are quite out of date. I will be submitting a bug report and a request that Harris use more recent versions of those libraries and fix some errors in the netCDF documentation.

Cheers, Ken