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Subject: Re: ncdf + x-connection + many files = crazy.  
Posted by [Michael Galloy](#) on Tue, 08 Feb 2011 21:36:04 GMT  
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On 2/8/11 1:37 PM, Matt wrote:

> Hey all,  
>  
> I've got a great riddle for you today. (Long story short, can you run  
> the test code included below to completion on your machine?) I've  
> already filed a bug report, but I want to see if other people can  
> reproduce these errors.  
>  
> I'm experiencing machine/version-dependent, non-deterministic behavior  
> that seems to present itself orthogonal to the triggering mechanism.  
> In other words, I've got a crazy-making problem.  
>  
> I experienced this in working code, but through patient debugging,  
> I've pared this down my until I've got a relatively small program that  
> demonstrates the problem behavior.  
>  
> The undesirable behavior is a NCDF\_OPEN error (NC\_ERROR=-31) after  
> some \*random\* number of open/close iterations on a netcdf file that  
> was created with IDL (or possibly a segfault core dump on other  
> machines.). The second feature is that I don't see this behavior  
> until I make an x-connection of some sort (window, /free, or even a  
> "device, depth=depth" will cause errors)  
>  
> Machine 1: (only has idl 7.0.1 64bit installed)  
> savoie@snow:~/tmp> uname -a  
> Linux snow 2.6.27.54-0.2-default #1 SMP 2010-10-19 18:40:07 +0200  
> x86\_64 x86\_64 x86\_64 GNU/Linux  
>  
> Machine 2 (fails with 32 bit idl7.0.1& idl6.4):  
> savoie@snowblower:~/tmp> uname -a  
> Linux snowblower 2.6.34.7-0.5-default #1 SMP 2010-10-25 08:40:12 +0200  
> i686 i686 i386 GNux  
>  
>  
> All the code does is open and close a netcdf file, many, many times.  
> But after an x-connection (via "window, /free"), the code errors out  
> at a different spot in the iteration.  
>  
>  
> Below is the output I get on the problem machines and below that, the  
> source code for you to try at home. For extra credit, modify the code  
> to open a netcdf file created with a different program than IDL, NCO  
> for example.  
>

```

>
> --OUTPUT-----
> savoie@snow:~/tmp> idl70
> IDL Version 7.0.1 (linux x86_64 m64). (c) 2008, ITT Visual Information
> Solutions
> Installation number: 100-431.
> Licensed for use by: University of Colorado
>
> IDL> .run ./crash_ncdf.pro
> % Compiled module: CREATE_HAND_SAMPLE.
> % Compiled module: CRASH_NCDF.
> IDL> crash_ncdf
> % Loaded DLM: NCDF.
> Successfully completed first iterations
> i =      143017
> ncdf_fid =      5
> % CRASH_NCDF: NCDF_OPEN: Unable to open the file "/projects/NRTSI-G/
> tmp_crashing_ncdf/sample_h
>      and.nc".
>      (NC_ERROR=-31)
> % Execution halted at: CRASH_NCDF      44 /homes/snowblower/savoie/
> tmp/crash_ncdf.pro
> %      $MAIN$

```

I made it through OK with IDL 8.0.1 (and netCDF 4.1 instead of the 3.6.2 in IDL 7.0):

```

IDL> crash_ncdf
% Loaded DLM: NCDF.
Successfully completed first iterations
Successfully completed second iterations
IDL> print, !version
{ x86_64 darwin unix Mac OS X 8.0.1 Oct  5 2010    64    64}

```

Mike

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