Subject: The good way to use cdfid's
Posted by Fabzou on Mon, 06 Jun 2011 09:42:39 GMT

Dear IDL fans,

Like many of you, i made my own NCDF object to handle NCDF files.

When the NCDF object is built, the init function opens the ncdf file
just once and stores the ncdf ID (given by NCDF_OPEN) as an attribute
(as long). In the object destroy procedure, the file is closed again,
like in the example code at the end of this message.

The reason for this choice was just to avoid many open/close, each time
a variable is asked, for example.

It worked well for a long time, BUT recently a user wanted to create and
destroy many many ncdf objects and finally got the following error after
opening exactly 16382 files:

%W_NCDF::INIT: ERROR! NCDF_INQUIRE: -2147483648 is not a valid cdfid.

where -2147483648 is then the ID returned by NCDF_OPEN on the line just
before, which didn't throw any error.

Any idea where this error could come from?

My only explanation is that I don't close the files properly, but the
OBJ_DESTROY procedure was called at the end of each loop and after
testing, the files seem also well closed...

I looked into David's code from NCDF_DATA and saw that David is opening
and closing the file every time (e.g. in NCDF_DATA::ReadVariable). What
are the reasons for this choice? This would open and close the same file
many times, and throw the error I obtain even sooner (I guess).

Thanks for your help on this !

Fabien

```
IDL> print, !VERSION
{ x86_64 linux unix linux 7.1.1 Aug 21 2009    64     64}

;---------------------------------------------------- ----------
pro w_NCDF__Define

  struct = {w_NCDF              , $
        path:            "    , $ ;
```

```
        cdfid:          0L   ,  $ ; id given by NCDF_OPEN
        etc...
        }

end

function w_NCDF::Init, FILE = file
  ; code ....
  self.cdfid = NCDF_OPEN(file, /NOWRITE)
  ; code ...
end

pro w_NCDF::Cleanup

  NCDF_CLOSE, self.cdfid

END
 ;--------------------------------------------------------- ----------
```