
Subject: Re: CDF vs HDF

Posted by [david.b.han](#) on Thu, 01 Apr 2004 12:56:11 GMT

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mmiller3@iupui.edu (Michael A. Miller) wrote in message
news:<87ptaum3hk.fsf@lumen.indyrad.iupui.edu>...

>>>> >> "Michael" == Michael Wallace <mwallace.removethis@swri.edu.invalid> writes:

>

>> This isn't an IDL question exactly, but I figured that
>> there are several here who have to deal with these file
>> types. Is there any real difference between CDF and HDF?
>> I have looked at some web pages that describe the
>> differences, but it doesn't mean much to me since I've
>> never delved into either one. The only reason I'm even
>> looking at these file types is that these seem to be the
>> types preferred by the data center we will be working with
>> later on for long-term archival of our data. If it means
>> anything, my core data sets are nothing more than really
>> big arrays. Later on, other data like PNG images may be
>> included.

>

>> Unless there's some big difference between the two, I'm
>> going to go with the one that's easier to work with in IDL.
>> So, that brings me to the question, is one easier to work
>> with than the other? Or do I flip a coin to determine
>> which one to use?

>

> CDF is pretty much superseded by netCDF, as far as I know, so you
> might consider netCDF instead.

This is not true. CDF is a superset of netCDF and it's much easier
to use from the programmer's and user's perspective. Both IDL and
MatLab has
a built-in support (APIs) for CDF, and there's a suite of IDL routines
with you can manipulate CDF files (read, write, plots, etc.) at
<http://cdaweb.gsfc.nasa.gov/cdaweb/>.

There's also a data format translator at
<http://translators.gsfc.nasa.gov> that
allow users to convert one or more local and/or remote files between
CDF, netCDF, and FITS.

> In that case, the biggest
> difference that I know of is that HDF 5 is capable of handling
> arbitrary sized data sets. NetCDF cannot handle files larger
> than 2 Gbytes due to an internal 32 bit integer. This has caused

- > me all sorts of headaches. I've had to write various wrappers
 - > that split data sets into multiple netCDF files that are smaller
 - > than 2 Gbytes each. HDF 5 handles that sort of thing
 - > transparently. Not only can it handle arbitrarily large data
 - > sets, but it will split large data sets across multiple files so
 - > that OS limitations on individual file size are not surpassed.
 - >
 - > That said, we've got such a large base of netCDF-based codes,
 - > that we have not yet bitten the bullet and switched to HDF. If
 - > we were to start a new, independent project, we'd certainly
 - > choose HDF 5 instead.
 - >
 - > For a summary and comparison to other formats, see
 - > http://hdf.ncsa.uiuc.edu/HDF5/RD100-2002/All_About_HDF5.pdf .
 - > That paper compares HDF 5 to the HDF 4, netCDF, PDB, TIFF, FITS
 - > and OpenDX formats.
 - >
 - > Mike
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