Subject: Re: Do netCDF Files Have a DataType of INT?
Posted by SonicKenking on Mon, 03 Jun 2013 05:11:44 GMT
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On Monday, June 3, 2013 12:36:19 PM UTC+10, David Fanning wrote:
> Folks,
>
>
>
> I've run into a problem with a netCDF file and I need a sanity check.
>
>
>
> I define a variable attribute "colortable" with an integer value, say
>
> 33. As far as I know netCDF files don't have a datatype named "INT", so
>
> I use the datatype "SHORT" when I create the attribute:
>
>
>
>   NCDF_ATTPUT, fileID, self.ID, 'colortable', 33, /SHORT
>
>
>
> Now, I want to read this attribute out of the file and copy it to
>
> another file. To learn something about this attribute I use the IDL
>
> routine NCDF_ATTINQ:
>
>
>
>   attrInfo = NCDF_AttInq(fileID, GLOBAL=1, 'colortable')
>
>
>
> But, the datatype field of this attribute structure is inexplicably set
>
> to INT:
>
>
>
>   IDL> Print, attrInfo.datatype
>
>   INT
>
>

>
> Does that make *any* sense to anyone?
>
>
>
> Cheers,
>
>
>
> David
>
>
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>
>
>
> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

My understanding is that NCDF Short is equivalant to IDL Int. They are both 2 byte integers.
But since IDL does not have a Short type, the data type is reported by NCDF_AttInq (an IDL routine) as INT, which is the result of an implicit type conversion.
They are basically the same thing. But I do think the fact that you get INT from AttInq but have to use SHORT in VarDef is rather confusing.

Subject: Re: Do netCDF Files Have a DataType of INT?
Posted by David Fanning on Mon, 03 Jun 2013 12:03:36 GMT
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David Fanning writes:

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>
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>
> Does that make *any* sense to anyone?

Oh, never mind. After sleeping on this, I think this is a user error on
my part. :-(

Cheers,

David

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

Subject: Re: Do netCDF Files Have a DataType of INT?
Posted by Paul Van Delst[1] on Mon, 03 Jun 2013 14:23:37 GMT
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From the netCDF docs:

<quote>
A variable external data type is one of a small set of netCDF types. In
classic and 64-bit offset files, only the original six types are
available (byte, character, short, int, float, and double).
</quote>

That indicates to me that the netCDF "int" is equivalent to the IDL
"long", i.e. a 4-byte integer.

Similarly, the netCDF "short" is equivalent to the IDL "int"

From netcdf.h:

```
/*
 * The netcdf external data types
 */
```

```
 #define NC_NAT     0
 #define NC_BYTE    1
 #define NC_CHAR    2
 #define NC_SHORT   3
 #define NC_INT     4
 #define NC_LONG    NC_INT
 #define NC_FLOAT   5
 #define NC_DOUBLE  6
 #define NC_UBYTE   7
 #define NC_USHORT  8
 #define NC_UINT    9
 #define NC_INT64   10
 #define NC_UINT64  11
 #define NC_STRING  12
 #define NC_MAX_ATOMIC_TYPE NC_STRING
```

cheers,

paulv

On 06/02/13 22:36, David Fanning wrote:
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