Subject: Re: USGS SDTS - revisited

Posted by Mark Hadfield on Tue, 05 Dec 2000 01:15:58 GMT

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"Kelly Dean" < krdean@lamar.colostate.edu > wrote in message news:3A2C2F83.35D6961@lamar.colostate.edu...

- > This program was developed under Windows 2000, so if you try this on a
- > UNIX machine, the keyword /Swap_Endian will need to be removed from the
- > Open statements. The /Swap Endian keyword should remain for Linux and
- > VAX users.

Note that OPEN supports SWAP_IF_BIG_ENDIAN and SWAP_IF_LITTLE_ENDIAN keywords that can be used to make code like this fully portable. They were introduced in version 5.1.

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Subject: Re: USGS SDTS - revisited Posted by Paul van Delst on Tue, 05 Dec 2000 08:00:00 GMT

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Mark Hadfield wrote:

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I don't see how this would make the code _fully_ portable - unless you were always sure that the input datfiles were always produced on a particularly-endian-ed machine.

A quick and dirty portability fix is to put the swap_endian keyword in the call - it will save the user from having to edit the file.

A better way would be for the code itself to determine the endian-ness. Liam Gumley has

mentioned

this a number of times in this newsgroup (see his binary read/write tools for an example). I do this sort of thing all the time now. The only "impediment" is determining what needs to be read from a file for endian testing. Is there any number in these DEM files that one could be certain of the value and/or range? E.g. in some aircraft interferometer data I had to read (sometimes generated on

a PC-OS/2 system, sometimes on an IBM RS-6000 or SGI IRIX system) I always checked the band number

(1, 2, or 3) If the numbers weren't 1, 2, or 3 (byte-swapped they were 16777216, 33554432, and 50331648) then I would close the file and re-open with swap_endian set. The code could then read

files created on either little- or big-endian machines within IDL running on either little- or big-endian machines.

I wish it was this easy (and as fast) to byte swap data in Fortran (compiler switches don't count).

paulv

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