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:
>
> "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.

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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