Subject: Re: XDR- External Data Representation
Posted by jacobsen on Tue, 29 Jun 1993 13:14:01 GMT
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In article <9306290949.AA06550@tigermoth.aero.gla.ac.uk.gla.ac.uk> gnaa38@aero.gla.ac.uk (Paul Porcelli) writes:

> Are there any facilities in Dos to convert a binary file to the XDR binary format.
> I am receiving binary data from a PC which i would then like to process on a Unix(Sun) Workstation using the IDL software.
> Any advice will be very welcome.

Well, you could get IDL for Windows, and then either write out
an XDR file or a netCDF file...
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****
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jacobsen@xray1.physics.sunysb.edu ALL-IN_ONE: CJACOBSEN
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Subject: Re: XDR- External Data Representation
Posted by jacobsen on Tue, 29 Jun 1993 13:24:13 GMT
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In article <9306290949.AA06550@tigermoth.aero.gla.ac.uk.gla.ac.uk> gnaa38@aero.gla.ac.uk (Paul Porcelli) writes:

> Are there any facilities in Dos to convert a binary file to the XDR binary format.
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Another option would be to use netCDF on the PC by getting the
netCDF subroutine library (free) from pub/netcdf/netcdf.tar.z
on unidata.ucar.edu

Then IDL could read in the netCDF file. netCDF is binary
transportable (actually built on XDR), and will also let
you preserve file header info.
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****
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Subject: Re: XDR- External Data Representation
Posted by thompson on Tue, 29 Jun 1993 14:39:08 GMT
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gnaa38@aero.gla.ac.uk (Paul Porcelli) writes:

> Are there any facilities in Dos to convert a binary file to the XDR binary
> format.
> I am receiving binary data from a PC which i would then like to process on
> a Unix(Sun) Workstation using the IDL software.
> Any advice will be very welcome.

You could do the conversion in IDL on the Sun workstation. The binary representation of numbers on the PC are the same as on the Sun, except that the order of the bytes is reversed. You can use the BYTEORDER routine to convert from PC format to Sun format. For example:

For byte arrays:

No conversion necessary.

For short integer arrays:

```
BYTEORDER, /SSWAP, array
```

For long integer, floating point, or complex arrays:

```
BYTEORDER, /LSWAP, array
```

For double precision arrays:

```
TEMP = LONG( array, 0, 2, N_ELEMENTS(array) )
BYTEORDER, TEMP, /LSWAP
TEMP = REVERSE(TEMP, 1)
array(0) = DOUBLE( TEMP, 0, N_ELEMENTS(array) )
```

That last one is kind of complicated, and is probably not as efficient as the others, but I don't have any better ideas for how to handle double precision numbers.

On the other hand, if you had IDL for Microsoft Windows, you could do the conversion on the PC, either using the /XDR switch on the OPEN statement, or by using BYTEORDER, /HTOXDR (host-to-XDR) and it's complement BYTEORDER, /XDRTOH.

Bill Thompson

P.S. By the way, the Sun workstation uses the same internal binary representation as XDR.