
Subject: Re: Associated reads on Unix/f77 binaries
Posted by [hahn](#) on Mon, 22 Jan 1996 08:00:00 GMT
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franz@bikini.gsfc.nasa.gov (Bryan A. Franz) wrote:

> Has anybody managed to do associated reads on files generated by f77 under
> Unix ?

> I have RTFM, which states that you can't do associated reads on files
> generated from FORTRAN 77 under Unix. Apparently, f77 sticks a longword
> containing the number of bytes before and after each logical record. IDL's
> readu accounts for the extra bytes, but assoc does not. It seems to me that I
> should still be able to do the associated reads, if I just added a dummy
> longword on either side of my datastructure, but it does not seem to work.

On Sun, 21 Jan 1996 22:38:33, you wrote:

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Fortran allows to write binary data without adding the record
length long word: The output file must be opened as direct access
file which implies constant record length. And this is what is
actually expected by IDL when ASSOC a piece of data to a variable.

Hope this help
Norbert Hahn

Subject: Re: Associated reads on Unix/f77 binaries
Posted by [nhbkmich](#) on Mon, 22 Jan 1996 08:00:00 GMT
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Bryan A. Franz (franz@bikini.gsfc.nasa.gov) wrote:

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There are two kinds of unformatted files in Fortran: access='sequential' and access='direct'. The latter one is equivalent to IDL's associated IO, all records must have the same size and are reached by index. Under UNIX these files don't contain recordlength information and reading them using ASSOC works fine.

Files written by Fortran with access='sequential' (the default!) may contain records of different sizes, thus reading by ASSOC might fail.

But the following example for reading a sequentially written file with records of equal sizes works (at least on HP-UX):

Fortran writing square numbers of 1 to 10 into 'unfo.dat':

```
program unfo
implicit none
integer i
open(1, file='unfo.dat', form='unformatted', access='sequential')
do i=1,10
  write(1) i**2
end do
close(1)
end
```

IDL reading 'unfo.dat' by ASSOC:

```
pro unfo
openr,unit,'unfo.dat',/get_lun
buf={dummy1:0L, value:0L, dummy2:0L}
unf=assoc(unit,buf)
for i=0,9 do begin
  buf=unf(i)
  print,buf.value
endfor
free_lun,unit
end
```

Subject: Re: Associated reads on Unix/f77 binaries
Posted by [steinhh](#) on Mon, 22 Jan 1996 08:00:00 GMT
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In article <franz.8.0016A52E@bikini.gsfc.nasa.gov>, franz@bikini.gsfc.nasa.gov (Bryan A. Franz) writes:
||>

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I think this should work. f77's idea of a logical record need not be the same as your idea of a logical record, though! If you write one (of your) record(s) with multiple WRITE statements, I think f77 decides that there's one record for each WRITE statement. You should really take a look at the format of the file itself to make sure. Use e.g., od (octal dump -- use "-h" to get hex, which I prefer) too look at it. Once you get the number (and placement) of extra longwords correct, it should work.

Stein Vidar
