Subject: Re: Error in reading large Fortran unformatted files
Posted by Kenneth P. Bowman on Thu, 17 Feb 2011 15:02:11 GMT
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In article
<45a7d29c-1223-4e0e-8390-5a549f91cd02@s11g2000yqh.googlegroups.com>,
 OM <metukio@gmail.com> wrote:

> The output is now:
> nb1=2147483657
> nb2=995288272
>
> I still have no idea what this means.

nb1 is the largest possible positive 32-bit signed integer

IDL> print, 2L^31 - 1
  2147483647

The fact that nb2 does not match nb1 indicates a problem.

The problem is probably that the version of Fortran that wrote your
file only allows 2 GB records. That is, the length word at the
beginning and end of each record is only 4 bytes.

A 64-bit fortran may or may not use 8-byte length words. You may be
able to set this as a Fortran option.

You should be able to find out in your Fortran documentation,
or you can find it experimentally by running a Fortran program
that writes a 2 GB record. I suggest that you write 4-byte
integer zeroes. Then try reading the file in IDL.

You can try this, which will read the first 4 bytes as the length word

```
nb1=0ul
nb2=0ul
OPENR, 1, f
READU, 1, nb1, d, nb2
```

or this, which will read the first 8 bytes as the length word

```
nb1 = 0ULL
nb2 = 0ULL
OPENR, 1, f
READU, 1, nb1, d, nb2
```

Then repeat the experiment with a 4GB record.