Subject: Re: memory issues redux
Posted by Paolo Grigis on Tue, 16 Nov 2004 11:11:36 GMT
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R.G.Stockwell wrote:
> I'm trying to squeeze out as much of my ram as I can.
> The threads here have helped a lot, but I still have a couple issues
> and questions:
> [win xp pro sp2, 3.4ghz p4, 4gb ram]
>
> 1) I'm not clear as to the status of idlde being able to access the 3gb
> memory
> space (by changing the boot ini file to include a /3g command).
> Can v6.11 do that? Is idl "Large Address Space Aware" ?
> If I could get this working, that would be fantastic. I have not tried
> messing around with my boot ini file yet.
>
> 2) I used the editbin program to rebase the dlls, and saw no difference
> in the largest array possible. My best is a whimpy 940mb array.
> Is there any way to figure out what is going on in my ram, to see what
> dlls are loaded where, etc? Anyone know of a program that can defrag ram?
> I've googled and downloaded several ram defragers, but they don't have any
> effect on memory (in fact, they all see that I have 2gb of ram, and that
> I'm using
> 0kb if it). I also came accros a tech article saying that these types of
> programs
> are just a scam. So anyone know of a real program to manage ram? Or at
> least
> look at the ram to see what is loaded where?
>
> 3) how are idl memory limitations under linux? Is it limited to 2gb, or
> could
> one access more memory than that? I am interested in both (maximum array
> size, and total memory available), if I could have 2 arrays of 1.3gb each,
> that
> would be awesome!
Under Linux (32 bit), for a single array you can get as large as
2 GB (minus a couple of overhead bytes):

```
IDL> a=bytarr(1024L*1024*2047+1024L*1023+1014L);works
IDL> a=bytarr(1024L*1024*2047+1024L*1023+1015L)
% Array has too many elements.
% Execution halted at: $MAIN$
```

Which is due to the limitation of the indexing occurring with longs,
and therefore not being able to go beyond 0..2^31-1.

As for having more than one array, I was just able to allocate for

a second array b fewer memory than a, and for a third array c fewer memory than b etc. Probably has to do with fragmentation of the available RAM (?).

Anyway I could get something like (d created after c, c after b, b after a, and trying to get as much as possible):

```
IDL> help,a,b,c,d
A               BYTE      = Array[2147483638]
B               BYTE      = Array[465567744]
C               BYTE      = Array[232783872]
D               BYTE      = Array[143654912]
IDL> help,/mem
heap memory used: 2989922225, max: 3080099849, gets:      415, frees:
```

At least there is no limitation of total memory at 2 GB, but I'am not sure if I could have gone above 3 GB...

```
IDL>help,!version,/st
   ARCH           STRING    'x86'
   OS             STRING    'linux'
   OS_FAMILY      STRING    'unix'
   OS_NAME        STRING    'linux'
   RELEASE        STRING    '6.0'
   BUILD_DATE     STRING    'Jun 27 2003'
   MEMORY_BITS    INT             32
   FILE_OFFSET_BITS
                  INT             64
```

> One option I have is installing linux on this computer and dual booting,
> and perhaps I could do
> some tests on some of the other linux boxes around.
>
> Cheers,
> bob stockwell
>
>

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Paolo Grigis
ETHZ - Institute of Astronomy email: pgrigis@astro.phys.ethz.ch
Scheuchzerstrasse 7
ETH Zentrum phone: ++41 1 632 42 20

8092 Zurich fax : ++41 1 632 12 05
Switzerland http://www.astro.phys.ethz.ch/