
Subject: Re: Maximum memory under Windows NT
Posted by [menakkis](#) on Wed, 17 Mar 1999 08:00:00 GMT
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Mark Rivers writes

.. about hitting a 1GB memory allocation limit in IDL on WinNT.

Hi Mark, My initial thought was "1GB is quite some allocation", but then not that long ago I used to think that 1GB was a whole lotta disk. Pretty soon it won't be that rare at all. I guess you've noticed that the standard MS docs are typically vague on the subject, apart from saying that "each application on NT has most of the lower 2GB of its virtual address space at its disposal". By chance I spotted a MS visual C linker option that governs the heap size. BY DEFAULT THIS IS 1GB. Evidently this is a seldom-used option, because there isn't even a field for it in the project settings property sheet. If IDL is using malloc() from the MSVC C runtime library (or is using some memory- management s/w that uses it) then I would guess that this is the problem. If so, then perhaps RSI would respond to a feature request to link specifying a larger heap.

"Martin Downing" <m.downing@abdn.ac.uk> wrote:

- > As an aside:
- > I am considering purchase of a similar spec machine for our workgroup, for
- > use with memory hungry images and processing routines in IDL and C++.
- > Would you possibly have time to drop me details of your spec and what you
- > might change now that you have tried the system.
- > 1.I was also thinking dual CPUs. As far as I know IDL 5.2 can not handle
- > multithreading, but i anticipate there would be a performance benefit since
- > one cpu would get all the OS work (does that include paging?) and the other
- > would then be dedicated to running IDL - have you found this?

Hi Martin, Mind if I butt in? :-) I hope I don't offend the group by talking about non-IDL things... I have access to a (dated) dual-PII-300 PC running NT. The 2 CPUS do help a bit. e.g., When running ENVI on an image-processing job (say, doing an MNF transform of an AVIRIS scene), the total CPU usage sometimes goes over 60%. Even higher (70ish I think) at times. In general, having 2 CPUS is rather pleasant if your budget can take it - everything cruises along that much smoother. If you have the inclination, you can also write your own multithreaded routines to call from IDL. If you work with large files then I'd strongly recommend that you consider beefing up your I/O. I have access to an (also dated) ADAPTEC RAID controller with a RAID0 disk (of 3 physical disks). It makes a substantial difference. Hardware RAID is not all that expensive to set up these days. It might also be worth your while to check out Linux instead of NT. I have no experience with Linux, but I'm really starting to wonder about NT. ("Fifty billion dollars can't be right" and so on.) I have heard it said that some

number-crunching Fortran programs favoured by geophysicists run 3 to 5 times faster on Linux! It's a pity that there's a timer problem in IDL for Linux - it would be interesting to see some comparisons in J.D. Smith's time-test archive.

Peter Mason

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