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Subject: Re: Maximum memory under Windows NT  
Posted by [Martin Downing](#) on Sat, 13 Mar 1999 08:00:00 GMT  
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Hi Mark,

> I have a question about maximum memory allocation under Windows NT. I have  
a  
> high-end Windows NT workstation configured with  
> - Dual 450 MHz Pentium CPUs  
> - 1GB of RAM  
> - Windows NT Workstation 4.0, SP3  
>

Sorry - I have no real solution, but here is my tudence worth:

What I have found is that life becomes unbearable, at least on our single PII450 with 124M Ram and a UDMA (ie non scsi) drive, if a routine exceeds the available RAM for IDL and consequently forces paging.

On the above system I ran a simple test routine on a 64Mb 2D image. It completed in 0.2-0.5 sec if the image was resident in ram, compared to 10-20 sec if it had been paged out to VM. This is much slower than the sum of the theoretical time to transfer the 64Mb to RAM and then running the routine -more like "gridlock"!

So to a new question: given a situation where you have IDL managing a large amount of memory where paging to virtual memory is inevitable, is there an efficient way to force/request the system to load required memory for a routine (eg an image) into RAM at the start of the routine ? (or even before if you have multiple processors!)

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?

2. Do you advise the most expensive (ECC) memory

3. Do you think Dual Xeon (i know its pricey) offers significantly improved memory handling (I/O speed) compared to Pentium III? Unless it does then the current 500Mhz speed advantage of pentium 3 plus the possibility to code up external routines in C which use the new SIMD extensions (4 floating points calcs in one go) seems to be the way to go.....if the system can feed the cpus fast enough.

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