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Subject: Re: memory issues redux

Posted by [Karl Schultz](#) on Tue, 16 Nov 2004 22:51:17 GMT

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"R.G.Stockwell" <noemail@please.com> wrote in message  
news:2vv1edF2n9tf7U1@uni-berlin.de...

> Thanks for all the info Karl!

> If I make any progress with editbin and /3gb I'll post about it.

We managed to find a machine here that would boot with /3GB. We did the  
EDITBIN trick on idlde.exe.

The result is that we were not able to allocate an array any larger than we  
were able to in the 2G environment. The reason is that the system modules  
are still loaded just below the 2G line and that fragments the virtual  
address space. So the limit on the largest contiguous block of memory  
doesn't change much.

We were, however, able to allocate a total of 2.8 GB by allocating many  
smaller arrays, working down to about 5MB. Now, this doesn't really help  
applications that are designed to work only with large arrays. But it does  
show that the /3GB switch seems to work and setting LARGEADDRESSAWARE with  
editbin appears to work. But again, if you want to allocate two 1.3 GB  
arrays, as you said in the original posting, I don't think that the 3GB  
environment is likely to help you much. And it won't help other people who  
think that the 3GB environment is going to solve certain memory problems.  
The answer is, and always will be, change your app to work with smaller  
chunks, or go 64-bit. The 3GB environment just gives you more smaller  
chunks.

Another thing to keep in mind is that booting with 3GB is not free. The  
extra 1G of virtual address space must come from someplace, and in this case  
it is the operating system, since the upper 2G had previously been reserved  
for it. This means that certain system resources like file caches, system  
page tables, GDI bitmap storage space, etc, now have less space. So,  
turning on 3GB may also have its disadvantages. I believe that the original  
intent behind the 3GB switch was to let large database applications run on  
"server" versions of Windows. These systems are carefully tuned to run as  
servers and just run the DB application. They were not set up to run  
interactive things like IDL. Bottom line is that the 3GB switch may not be  
for everybody. I suppose I'd suggest that people need to fully understand  
the memory issues before investing a lot of time in this. It may be better  
in the long run to target a more capable OS. These short term adjustments  
that provide a sort of help that isn't what is really needed might not be a  
good investment.

I hesitate to point to this link because I don't know how authoritative it  
is, but many of the postings that I did read seem to explain what we are

talking about. There are actually some good tutorial-style discussions about virtual memory and the 3GB issue.

<http://weblogs.asp.net/oldnewthing/archive/2004/08/22/218527.aspx>

Microsoft explains a problem with using the 3GB switch with XP SP1 in

<http://support.microsoft.com/default.aspx?scid=kb;en-us;328269>

And of course, there is much more out there on the net and in good books about Windows.

Hope this helps,  
Karl

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