
Subject: Re: why I can't use the max memory available?
Posted by [Rick Towler](#) on Mon, 21 May 2007 22:21:29 GMT
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David Fanning wrote:

> Jenny writes:

>

>> Hi, I'm trying to use pcomp to calculate pca for a large number of
>> variables, say over 10,000, only 6 observations though. I'm not sure
>> if I'd obtain useful results by pca, but just want to give a try. On
>> Windows XP Professional system IDL 6.3, I got the following error
>> message: Unable to allocate memory: to make array
>>

>> However, when I type: help,/memory

>> heap memory used: 2082561, max: 825942109, gets: 811,
>> frees: 468
>>

>> My heap memory used is far smaller than the max available memory! I'm
>> wondering why? Any ideas?

>

> Try here:

>

> http://www.dfanning.com/fileio_tips/lgfiles.html

David, you may want to add a bit of detail regarding adding the /3GB switch to windows XP boot.ini file (which is what Karl is addressing in point 1). This definitely will open up a larger chunk of contiguous RAM on 32bit machines with >3GB of RAM but I have run into a few issues. Namely, certain drivers may fail to load correctly when using the /3GB switch. Giving the kernel just a wee bit more space seems to solve the problem. This can be done using the /USERVA switch. Here's an example from my boot.ini file (all on one line):

```
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Microsoft Windows XP  
Professional 3GB USERVA 2900" /fastdetect /3GB /userva=2900
```

It is interesting to note that the /3GB switch also works on machines with 3GB of RAM installed. I don't know exactly how RAM is apportioned between application and kernel in this scenario but the address space for applications definitely is bigger. The /USERVA switch is even more useful here since wherever the line is drawn, the kernel is in a tight place and you can get some weird behaviors.

More details can be found here:

<http://support.microsoft.com/kb/833721>

-Rick
