
Subject: Memory allocation problem

Posted by [kodark](#) on Wed, 26 Nov 2008 15:56:50 GMT

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Hi all,

I am a beginner-level user of IDL. Recently I run into the memory allocation problem: 'unable to allocate memory'. I loaded a large image (11820*11820, float, about 530M) into an array. Then when I tried to create two new arrays of the same size, the program said 'unable to allocate memory'.

I have read a lot of articles about this problem on the net, but I still cannot solve this problem. My computer runs 32-bit Windows XP with 4GB RAM and I have assigned 10GB from hard drive to Virtual Memory. The virtual memory looks contiguous in the Disk Defragmenter program. I am curious about the following output.

```
IDL> help,/memory
```

```
heap memory used: 681301, max: 681324, gets: 765,  
frees: 413
```

Then I executed the MemTest program provided by ittviz

% Compiled module: MEMTEST.

```
Memory block # 1: 806 Mb (total: 806 Mb)  
Memory block # 2: 390 Mb (total: 1196 Mb)  
Memory block # 3: 214 Mb (total: 1410 Mb)  
Memory block # 4: 143 Mb (total: 1553 Mb)  
Memory block # 5: 66 Mb (total: 1619 Mb)  
Memory block # 6: 59 Mb (total: 1678 Mb)  
Memory block # 7: 56 Mb (total: 1734 Mb)  
Memory block # 8: 40 Mb (total: 1774 Mb)  
Memory block # 9: 27 Mb (total: 1801 Mb)  
Memory block #10: 23 Mb (total: 1824 Mb)
```

It is obvious that the second largest block is less than 530M.

Then

```
IDL> help,/memory
```

```
heap memory used: 685533, max: 1913289245, gets: 789,  
frees: 433
```

The heap memory max increased from 681324 to 1913289245.

I want to know why the virtual memory is not recognized and used? why the heap memory max changed?

Thank you.

Kodark

Subject: Re: Memory allocation problem

Posted by [R.G. Stockwell](#) on Wed, 26 Nov 2008 16:58:56 GMT

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<kodark@gmail.com> wrote in message

news:0b01ac28-0dfe-44f6-8f15-75782d6c2f78@x8g2000yqk.googleg rroups.com...

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> Thank you.
>
> Kodark

the quick solutions are to switch to linux. Windows only lets you get at 2gb for any one process, and even worse, Windows scatters DLLs throughout memory which makes large contiguous memory blocks (which IDL requires) unlikely. Perhaps try going with a very bare bones windows, with no programs starting up, no virus, firewall, etc (unplug from network maybe).

I had these problems all the time (trying to get 3 1gb arrays), and it was impossible in windows, and flaky on linux. So I moved to a 64b machine.

Cheers,
bob

PS try googling through google groups to see all the old messages on this thread.

Subject: Re: Memory allocation problem
Posted by [b_gom](#) on Wed, 26 Nov 2008 22:28:00 GMT
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Maybe not helpful for your specific problem, but if you really need big arrays then just take advantage of a 64-bit OS and cheap RAM:

```
IDL> memtest
Memory block # 1: 2047 Mb (total: 2047 Mb)
Memory block # 2: 2047 Mb (total: 4094 Mb)
Memory block # 3: 2047 Mb (total: 2045 Mb)
Memory block # 4: 2047 Mb (total: 4092 Mb)
Memory block # 5: 2047 Mb (total: 2043 Mb)
Memory block # 6: 570 Mb (total: 2613 Mb)
```

WinXP x64, 8GB RAM, IDL 7.
