Subject: Re: IDL memory limitation?
Posted by Mark Hadfield on Thu, 15 Sep 2005 21:29:00 GMT
View Forum Message <> Reply to Message

IDLmastertobe wrote:
> Thanks Mike, I am doing it on a windows machine. Is there any way that I
> can check my memory usage for my program?a
>

There is an IDL procedure called memtest (or mem_test) that will report on the areas of *contiguous* memory available to IDL. You can get it here:

http://www.rsinc.com/services/techtip.asp?ttid=3441

You might might want to look here as well:

http://www.rsinc.com/services/techtip.asp?ttid=3512

On my system (Windows 2000 Service Pack 4, 1 GiB RAM, a few GiB of swap space), when IDL is freshly started, memtest reports the following

Memory block # 1: 1033 Mb (total: 1033 Mb)
Memory block # 2: 388 Mb (total: 1421 Mb)
Memory block # 3: 203 Mb (total: 1624 Mb)
Memory block # 4: 61 Mb (total: 1685 Mb)
Memory block # 5: 58 Mb (total: 1743 Mb)
Memory block # 6: 48 Mb (total: 1791 Mb)
Memory block # 7: 33 Mb (total: 1824 Mb)
Memory block # 8: 21 Mb (total: 1845 Mb)
Memory block # 9: 20 Mb (total: 1865 Mb)
Memory block #10: 17 Mb (total: 1882 Mb)

(where the "Mb"s are supposed to be "MB"s, ie megabytes rather than megabits).

However from time to time IDL gets into a state where "Memory block #1" is reduced to only 350 MiB or so. A full restart does not fix this--the only cure is to restart IDL. I haven't reported this problem to RSI yet, as I don't know how to reproduce it. (I *suspect* it may have something to do with the video driver, as it seems to occur when I am trying to do heavy-duty object graphics--if this is true going back to software rendering may fix it, but, like I said, I cannot reproduce it reliably so it's hard to diagnose or solve it.)

Finally you say the data you are visualising total only 40-50 MiB. With IDL it is easy to do things in such a way that the total memory reequirement exceeds the size of your data many times, by inadvertently making copies of your data and such like. (If it's any consolation, this

problem is *much* worse in Matlab.) Object Graphics tends to be pretty heavy on memory. I suggest you experiment with smaller datasets, using "help, /MEMORY" to establish the memory requirements.

--

Mark Hadfield "Kei puwaha te tai nei, Hoea tahi tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)