
Subject: problems plotting LARGE amounts of 2D data?

Posted by [mcheng](#) on Tue, 22 Feb 1994 15:25:11 GMT

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Hi

I am trying to find ways to plot LARGE amounts of 2D data, and I like to know what is currently the state of the art. For the sake of this posting, let's say "large" means much more data than fits in real memory. From my own experience, using the virtual memory of the workstation to store large amounts of data impedes performance due to excessive paging. Here is what I have been able to gather so far:

1) AVS: has 25,000 point limit. Everything is loaded into virtual memory.

2) Khoros 1: loads everything into virtual memory.
Any updates from Khoros 2.0?

3)idl/pvwave: As far as I can tell from the short demo, loads everything into virtual memory?

I'm posting this to the various Comp.graphics.* groups, hoping that I can get feedback from users of various software packages. I would appreciate comments on the current/future capabilities of the above packages. I would also like comments about other packages, such as SGI Explorer, IBM Data Explore, apE, or any other package. Thanks in advance.

Mike

Subject: Re: problems plotting LARGE amounts of 2D data?

Posted by [mcheng](#) on Wed, 02 Mar 1994 18:17:19 GMT

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> In article <thompson.762034802@serts.gsfc.nasa.gov> thompson@serts.gsfc.nasa.gov (William Thompson) writes:

> Somebody else mailed me privately that he thought that you were probably
> talking about database management techniques, rather than memory management
> once data had already been read into arrays. I don't know how the other
> packages you mentioned work, but I can comment on how this applies to IDL.
> ...
> It reads in what you tell
> it, whether that's an entire file all at once or piece by piece, because you've
> written an old-fashioned program to do just what you wanted to do. You have
> complete control and complete responsibility. :^)

Quite a few people have emailed me about this capability of IDL, which I was not aware before my posting. Thanks to all who replied.

The application I have in mind is to explore a few large data files by interactively scrolling and zooming their graphs. The combined sizes of the files are greater than the amount of main memory. What I want to do is to say, "plot", "zoom", or "scroll", and watch the results appear quickly. But it seems that I have only 2 choices now:

- 1) Write my own program to do read data a bit at a time, effectively doing my own memory management
- 2) Rely on the operating system's own virtual memory, which can be very slow.

In my previous posting I hinted at database memory management because a lot of research has been directed to eliminating 1) and 2) above. Databases circumvent the operating system's own memory management policies and implement their own policies for database queries. In effect, I was asking if there is already something out there that will try to do the same for me, except that my application is "plot", "scroll", and "zoom".

Mike
