Subject: Re: Object overhead
Posted by Craig Markwardt on Sat, 22 Sep 2001 14:50:46 GMT
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"Pavel A. Romashkin" <pavel.romashkin@noaa.gov> writes:

> I noticed that the size of an object array, where each object only has
> one empty poiter field, is 4 times larger than the size of an empty
> pointer array of the same length. PTRARR(1000), when saved, takes about
> 44 Kb. OBJARR(1000) of {junk, data:PTR_NEW()} takes 176 Kb. Why is that?
> Also, it takes twice the time (0.79 vs 0.44 s) to save an object array
> than the pointer array. It can not have to do with the volume of saved
> data because it takes 0.05 s to save an 80 Kb FLTARR(20000).

Hi Pavel--

Since I've mucked around with the format of save files, and in fact made a library to manipulate them, I think I can try to answer your questions.

Saving a FLTARR() is fast because IDL can simply write out a block of floating point numbers in one operation. [after converting to standard endian-ness, of course]

Saving a PTRARR() is slower, because IDL must scan through the entire array looking for non-null pointers. You actually gave an example that was too trivial. If you tried populating your PTRARR(1000) with values, you will find that the save file becomes much larger and take much longer to create. That's because IDL must save each heap variable separately. This is invisible to you, but it happens.

Finally, an array of objects is more complicated still. Objects are really structures. Since structures are more or less infinitely flexible, much more complicated programming is used to save them, and there is extra metadata information related to structures, that must also be saved.

Vector support for structures and pointers has never been as strong as for simple data types, and this shows in how they are save as well.

Hope this helps!
Craig

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