Subject: Re: Memory management by 5.4 on Sunblade
Posted by John-David T. Smith on Wed, 19 Dec 2001 22:41:28 GMT
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Timm Weitkamp wrote:
> Hi,
>
> I'm mostly using IDL 5.4 on my laboratory's Linux86 cluster, and
> running memory-critical simulation code on it which uses lots of large
> temporary arrays.
>
> Now they've bought a Sunblade as the first test machine of a future
> cluster, and so I tried running my code on that one, using 5.4 as
> before. That is,
>
> IDL> print,!version
> { sparc sunos unix 5.4 Sep 25 2000 64 64}
>
> However, I noticed that memory management by IDL 5.4 on the Sunblade
> is extremely poor in that variable space "freed" by TEMPORARY, DELVAR,
> or simply by dynamic resizing of a variable is not actually freed but
> kept allocated (so tells me "top").
>
> I wonder if this bug will persist with 5.5, which hasn't yet been
> installed on any machine here. Has anybody else made any experience
> with 5.4 or 5.5 on Sunblade in this context?

It's not a *bug*, it's a *feature*. IDL allocates memory as necessary from the OS, and then, even if it doesn't need it any more, hangs onto it just in case. This is true I think on all platforms, and all recent versions of IDL. You still have the memory available, just not to the system as a whole.

Example:

```
IDL> help,/memory
heap memory used:     370549, max:     372383, gets:      297,
frees:       92
IDL> a=fltarr(256,256,256)
IDL> help,/memory
heap memory used:   67479528, max:   67479547, gets:      301,
frees:       93
IDL> a=0
IDL> help,/memory
heap memory used:     370617, max:   67479545, gets:      304,
frees:       95
```

So you see, the giant array used up 64MB or so. IDL allocated the memory for it, at which point 67479528 bytes of heap memory are used. When you free that variable, only 370617 bytes are used, but 67479545 bytes are still allocated. So the memory is available, just not to any other program.

JD
