Subject: Re: Memory management by 5.4 on Sunblade
Posted by Nigel Wade on Thu, 20 Dec 2001 09:45:12 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?
>
> Timm

I don't think it's IDL, but the underlying OS.

AFAIK IDL uses the system memory managment provided by malloc/free. On Linux free() returns memory back to the OS when it can. Under Solaris this is not the case, so the application retains the virtual memory pages.

With good virtual memory managment this is rarely important. Physical memory is allocated on a page-by-page basis as needed by applications. Provided you have sufficient swap space to hold the virtual memory in use by all applications, and each application has sufficient limits to allow the necessary virtual memory there shouldn't be a problem. If an application holds on to a page of virtual memory which it no longer requires it only takes up space on the swap disk not in physical memory. There will be some overhead as this page is swapped out to disk, but that only occurs if some other application requires the physical memory.

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