
Subject: Re: Array Subscripting Memory Usage (watch out!)
Posted by [Andre Kyme](#) on Wed, 02 Oct 2002 23:23:21 GMT
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Dick Jackson wrote:

```
> Hi all,  
>  
> This may be old news to some of you, but it surprised me and a couple of  
> colleagues, and I couldn't find any discussion of it on this group, so  
> I'll share it around.  
>  
> I was surprised to find how much memory is used during access to a  
> subset of an array. I ran this, which makes a 1000x1000 array, and  
> accesses a subset of it using an array of subscripts:  
>  
> a = bindgen(1000, 1000)  
> subscripts = Long(RandomU(seed, 500)*1000)  
> baseMem = (memory())[0]  
> help, a[subscripts, *]  
> highWaterMem = (memory())[3]  
> Print, 'Memory used during access: ', highWaterMem-baseMem  
>  
> IDL> .GO  
> <Expression>  BYTE    = Array[500, 1000]  
> Memory used during access:    2500076  
>  
> The array being extracted is 0.5 million bytes, but it took 2.5 million  
> bytes to do it! I'm guessing that there's a Long array being made behind  
> the scenes that contains the indices of the elements I'm going to get  
> back.
```

Dick, I ran your little program on IDL5.5 (Solaris 9) and got the following output:

```
<Expression>  BYTE    = Array[500, 1000]  
Memory used during access:    4500128
```

Yikes, I get 9N bytes needed to extract an N byte array!

Andre
