
Subject: Re: Slow array indexing
Posted by [the_cacc](#) on Wed, 06 Feb 2002 17:15:19 GMT
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Only seems to apply to BYTARR, INTARR and UINDGEN. The program below gives the following output on IDL5.5 Alpha Linux:

```
IDL> test
% Compiled module: TEST.
{ alpha linux unix linux 5.5 Aug 28 2001    64    64}
  1    3.2928760
  2    2.3732140
  3    0.047249913
  4    0.047480941
  5    0.0059390068
  6    0.0069260597
  9    0.0088199377
 12    2.3164300
 13    0.0047600269
 14    0.0057559013
 15    0.0054670572
```

PRO test

```
n = 256
index = lindgen(n)
type = [1,2,3,4,5,6,9,12,13,14,15]
```

```
print,!version
```

```
FOR i = 0,10 DO BEGIN
  arr = MAKE_ARRAY(n,n,TYPE=type[i])
  t=systime(1)
  temp=arr[* ,index]
  print,type[i],systime(1)-t
ENDFOR
```

```
END
-----
```

Subject: Re: Slow array indexing
Posted by [Nigel Wade](#) on Wed, 06 Feb 2002 17:26:34 GMT
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trouble wrote:

```
> Hi,  
>  
> Another array query - accessing arrays seems very slow in 5.5 (Alpha  
> Linux)  
>  
> IDL> array = INTARR(256,256,10)  
> IDL> iz = [0,2,4,6,8]  
> IDL> t=systime(1)&new = array[*,* ,iz]&print,systime(1)-t  
>      11.529402  
>
```

Is it really taking that much time or is it miscalculating systime()?

```
>  
> Compare this with 5.4 (Alpha OSF unix) on a slower machine:  
>      0.039039969  
>  
>
```

That's about what I get with IRIX, Solaris and Linux/x86.

> Anyone know what's going on here ?

Not a clue. Something strange in Alpha Linux.

What happens if you run strace on idl? E.g. put the commands in a file (script.pro) and run

strace idl script.pro

If the IDL executable is similar for Alpha as it is for x86 there should be two calls to gettimeofday (one each for the calls to systime()). Is anything strange going on in between them (all I get is two calls to mmap2 and one call to munmap, presumably allocating/releasing storage for the arrays created).?

--

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Subject: Re: Slow array indexing

Posted by [Nigel Wade](#) on Thu, 07 Feb 2002 09:45:34 GMT

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trouble wrote:

> Only seems to apply to BYTARR, INTARR and UINDGEN. The program below
> gives the following output on IDL5.5 Alpha Linux:
>

It may be due to hardware. Alpha is 64 bit hardware, isn't it? Maybe Linux is very poor when using 8 and 16 bit data types.

Is it just IDL, or do other applications suffer bad performance with 8/16 bit data types.?

--

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Subject: Re: Slow array indexing

Posted by [the_cacc](#) on Thu, 07 Feb 2002 10:21:27 GMT

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Nigel Wade <nmw@ion.le.ac.uk> wrote in message news:<a3rp08\$1ub5\$1@rook.le.ac.uk>...

>
> Is it really taking that much time or is it miscalculating systime()?
>
> What happens if you run strace on idl? E.g. put the commands in a file
> (script.pro) and run
>
> strace idl script.pro
>

Yes, it really is taking that long. I tried strace - got syntax error messages. Is strace an IDL command ? Or linux ? There's no manual entry for 'strace' in either unfortunately, so I'm a bit confused.

BTW, if anyone else out there is on a Linux Alpha, could they try running the program listed earlier in the thread ? Thanks.

Subject: Re: Slow array indexing

Posted by [the_cacc](#) on Thu, 07 Feb 2002 17:17:53 GMT

Nigel Wade <nmw@ion.le.ac.uk> wrote in message news:<a3tibs\$55n4\$1@rook.le.ac.uk>...
>
> It may be due to hardware. Alpha is 64 bit hardware, isn't it? Maybe Linux
> is very poor when using 8 and 16 bit data types.
>
> Is it just IDL, or do other applications suffer bad performance with 8/16
> bit data types.?

IDL5.4 ran just fine on this very machine.

Man, my programs are running so slow now... you wouldn't believe.

Subject: Re: Slow array indexing
Posted by [Nigel Wade](#) on Thu, 07 Feb 2002 18:09:49 GMT
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trouble wrote:

> Nigel Wade <nmw@ion.le.ac.uk> wrote in message
> news:<a3rp08\$1ub5\$1@rook.le.ac.uk>...
>>
>> Is it really taking that much time or is it miscalculating systime()?
>>
>> What happens if you run strace on idl? E.g. put the commands in a file
>> (script.pro) and run
>>
>> strace idl script.pro
>>
>
> Yes, it really is taking that long. I tried strace - got syntax error
> messages. Is strace an IDL command ? Or linux ? There's no manual
> entry for 'strace' in either unfortunately, so I'm a bit confused.
>

It's a Linux command. Maybe it's not installed on your machine.
In RH 7.2 there's a separate RPM, strace.

From your other post it seems like it's an issue between IDL 5.5 and Alpha Linux. Maybe some problem in library compatability. Do you still have IDL 5.4 on that machine, or can you re-install it? It would be interesting to see if they have different library dependencies.

--

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