
Subject: Re: Threads in IDL 7.0

Posted by [Vince Hradil](#) on Tue, 28 Oct 2008 13:01:28 GMT

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On Oct 27, 12:26 pm, Heinz Stege <public.215....@arcor.de> wrote:

> On Mon, 27 Oct 2008 16:44:29 +0100, Bernhard Reinhardt wrote:

>> Well, I wasn't really precise. I'm not doing this on a 1d-array but on a
>> 4d-array, where 2 dimensions are time and 2 dimensions are space. I try
>> to filter special events in time and count those on a 2d-map. Here's the
>> code:

```
>
>>   for i = 0, N_ELEMENTS(STRUC.data[:,0,0,0])-1 do begin
>>       for j = 0, N_ELEMENTS(STRUC.data[0,:,0,0])-1 do begin
>>           indices = Where(STRUC.data[i,j,*,*] GE 150., count)
>>           freq [i,j]=count
>>       endfor
>>   endfor
```

>> Although the array data is quite big "where" only get's a small portion
>> to see of it. So thread-pool isn't invoked. => CPU-Usage still 50%

>> I also asked some more IDL-experienced colleagues about generating
>> threads manually but they also didn't know about anything like that :(

>> BUT using your method still brought me a gain of 3.6 times faster
>> execution :)

>> regards

>> Bernhard

> Please try the following command:

```
>   freq=total(total(STRUC.data ge 150.,4,/integer),3,/integer)
```

> The IDL manual says, that TOTAL makes use of IDL's thread pool. And
> there is no for-loop needed anymore...

> HTH, Heinz

So, which is faster?

```
freq = fix(total(total(transpose(struc.data,[2,3,0,1]) ge 150.,1),1))
```

or

```
freq=total(total(STRUC.data ge 150.,4,/integer),3,/integer)
```

TRANSPOSE or TOTAL over trailing dims?

Here's my quick (un-scientific) test:

```
(  
IDL> arr = bytscl(randomu(sd, [100,101,102,103]))  
IDL> t0 = systime(1) & help, total(total(arr,4,/integer),3,/integer) &  
print, systime(1)-t0  
<Expression>  LONG64   = Array[100, 101]  
              0.45300007  
IDL> t0 = systime(1) & help, total(total(transpose(arr,[2,3,0,1]),1,/integer),1,/integer) & print, systime(1)-t0  
<Expression>  LONG64   = Array[100, 101]  
              1.5929999  
IDL> print, !version  
{ x86 Win32 Windows Microsoft Windows 7.0 Oct 25 2007    32    64}
```
