Subject: Re: idl parallel processing
Posted by siumtesfai on Wed, 24 May 2017 22:20:20 GMT
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On Tuesday, May 23, 2017 at 8:59:31 AM UTC-4, Markus Schmassmann wrote:
> On 05/22/2017 09:06 PM, Sium T wrote:
>> On Monday, May 22, 2017 at 5:35:49 AM UTC-4, Helder wrote:
>>> On Monday, May 22, 2017 at 4:59:52 AM UTC+2, Sium T wrote:
>>>> On Friday, May 19, 2017 at 10:59:07 AM UTC-4, wlandsman wrote:
>>>> > Yes, you can use the IDL Bridge for this. But if you have
>>>> > IDL 8.4 or later, then more valuable would be using the
>>>> > .HASVALUE() static method. Your code would then be
>>>> >
>>>> > result= bytarr(n_elements(siteN))
>>>> > FOR i= 0,n_elements(siteN)-1 do result[i] = data.hasvalue(siteN[i])
>>>> >
>>>> > The reasons this is much faster are (1) you don't need to
>>>> > compute the output vector of WHERE(). All you care about is
>>>> > whether the siteN[i] value is present in the data array-- you
>>>> > don't care where it is. And (2) the .hasvalue() method will
>>>> > return as soon as it finds a single case where the siteN[i]
>>>> > value is present, so you skip having to search the entire data
>>>> > array
>>>> >
>>>> > --Wayne
>>>> >
>>>> > On Thursday, May 18, 2017 at 6:05:51 PM UTC-4, Sium T wrote:
>>>> >> Hello,
>>>> >>
>>>> >> I have a procedure below. It want to call my procedure in my
>>>> >> main program and do parallel processing on the do loop.
>>>> >>
>>>> >> How can use the IDL_Bridge . Any suggestion
>>>> >>
>>>> >> pro computation,data=data,siteN=siteN,result
>>>> >>
>>>> >> result=fltarr(n_elements(siteN))
>>>> >>
>>>> >> FOR i= 0,n_elements(siteN)-1 do begin
>>>> >> y=where(data eq siteN(i))
>>>> >> if y(0) ge 0 then begin
>>>> >> result(i)=1
>>>> >> endif else begin
>>>> >> result(i)=0
>>>> >> endelse
>>>> >> ENDFOR
>>>> >>
>>>> >> end

>>>>
>>>> Thanks Wayne
>>>>
>>>> I tried your method
>>>> result= bytarr(n_elements(siteN))
>>>> FOR i=0,n_elements(siteN)-1 do result[i] = data.hasvalue(siteN[i])
>>>>
>>>> However, I got this error message.
>>>>
>>>> Object reference type required in this context:
>>>
>>> Hi, what do you get if you type at the command line: help,
>>> !version
>>
>> I have IDL version 8.2.3 . HasValue works with version 8.4 or
>> above.
>>
>> So I need to use idl_bridge. But it becomes challenging to me
>>
>> Here is my trial code . First I have this procedure. It takes for
>> ever to compute Shourly result.
>>
>> Can you help with how to call this procedure in idl_idlbridge ?
>>
>>
>>
>> ;===
>> pro program1,Rdata,edata,Shourly
>>
>>
>> StateN=reform(edata(0,*))
>> CountyN=reform(edata(1,*))
>> siteN=reform(edata(2,*))
>> ;=======================
>> scode=reform(Rdata(0,*))
>> ccode=reform(Rdata(1,*))
>> snum=reform(Rdata(2,*))
>> year=reform(Rdata(3,*))
>> month=reform(Rdata(4,*))
>> day=reform(Rdata(5,*))
>> hour=reform(Rdata(6,*))
>> lats=reform(Rdata(7,*))
>> lons=reform(Rdata(8,*))
>> ;==============================
>> Shourly=fltarr(n_elements(siteN),12,31,24)
>>
>> for s=0,n_elements(stateN)-1 do begin
>>

```
>>  z=where(scode eq fix(StateN(s)) and ccode eq fix(CountyN(s)) and snum eq fix(siteN(s)))
>>
>>  if z(0) ge 0 then begin
>>   data2=Rdata(*,z)
>>
>>     FOR mn=1,12 do begin
>>   FOR dy=1,31 do begin
>>   FOR hr=0,23 do begin
>>
>>           b=where(month eq mn and day eq dy and hour eq hr)
>>
>>           if b(0) ge 0 then begin
>>   value=data2(9,b)
>>             Shourly(s,mn-1,dy-1,hr)=value(0)
>>   endif else begin
>>             Shourly(s,mn-1,dy-1,hr)=-9999.0
>>   endelse
>>
>>         ENDFOR
>>   ENDFOR
>>     ENDFOR
>>
>>  endif else begin
>>   Shourly(s,*,*,*)=-9999.0
>>  endelse
>>
>>  endfor
>>
>>  end
>>
>>  ;=======================================
>  I have no experience with the IDL_IDLbridge, but maybe you can speed up
>  your processing using HISTOGRAM and avoid most of the looping.
>  Below I did it (without testing) for your trial code, for more see:
>  http://www.idlcoyote.com/tips/histogram_tutorial.html
>
>  ;================================
>  shourly=fltarr(24,31,12,n_elements(siteN))
>  for s=0,n_elements(stateN)-1 do begin
>
>     z=where( scode eq fix(StateN(s)) and ccode eq fix(CountyN(s)) and $
>              snum eq fix(siteN(s)),cnt)
>
>     if cnt ne 0 then begin
>       data2=Rdata[*,z]
>
>       h=histogram(((month-1)*31+(day-1))*24+hour, $
>          min=0,max=12l*31*24-1,bin=1,reverse_indices=ri)
```

```
>       Shourly[*,*,*,s]=reform(data2[9,ri[ri[0:(12l*31*24-1)]]],[24 ,31,12])
>      w=where(h eq 0,cnt2)
>      if cnt2 ne 0 then Shourly[12l*31*24*s+w]=-9999.0
>
>    endif else begin
>      Shourly[*,*,*,s]=-9999.0
>    endelse
>
> endfor
> Shourly=transpose(Shourly,[3,2,1,0])
> ;=======================================
>
> You probably could eliminate the outer loop as well, but that would be a
> bit more complicated.
>
> good luck, I hope this helps,     Markus
```

thanks Markus
