Subject: Re: Speed does matter
Posted by Dae-Kyu Shin on Tue, 25 Aug 2015 04:34:52 GMT
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> On Thursday, August 13, 2015 at 1:33:24 AM UTC-6, Kallisthène wrote:
>> I just ran the same tests on the official "unofficial" IDL 8.5 which promised some speed improvement. Strangely enough no such claims appeared in the "What's new" and indeed results of the above tests are strictly similar in IDL 8.5 ...
>>
>> The good news is that we can now switch to Python MKL inside IDL when dealing with poor performances.
>>
>>
>> Best
>
> Hi Kallisthène,
>
> Well, you posts contain a lot of information. If I could sum them up, I would say "IDL is faster at some computations, Python or Matlab is faster at others."
>
> It really does depend upon your code and your algorithm. To make a sweeping generalization, IDL's interpreter will be faster than Python's for "normal" problems - things with lots of "for" loops, small-to-medium size arrays, and image processing. Python and Matlab will be faster for hard-core linear algebra problems with large matrices.

IDL's for loops very slow comparesion with matlab.
for example

IDL(8.5) code

```
nx = 500
ny = 500
nz = 500

arr = dblarr(nx, ny, nz)


tic
for z = 0, nz - 1 do begin
   for y = 0, ny - 1 do begin
      for x = 0, nx - 1 do begin
         arr[x, y, z] = 1
      endfor
   endfor
endfor
toc
```

And MATLAB(2014a) code

```
nx = 500;
ny = 500;
nz = 500;

arr = zeros(nx, ny, nz);

tic
for z=1:nz
   for y = 1:ny
      for x = 1:nx
         arr(x,y,z) =  1;
      end
   end
end
toc
```

The result, on my desktop
IDL -- 5.16 second
MATLAB --0.45 second

Roughly, MATLAB's for loop x10 faster.

>
> The chances of compiling IDL against the Intel Math Kernel library is low - the IDL team isn't huge, and we have a lot of pending features on our plate.
>
> So I think your solution is a good one. Use IDL as your general purpose scripting engine, input/output of data, use it for medium-size arrays. Then use the Python bridge to process your large arrays.
>
> I'd love to see real-world examples of using the Python bridge, so please post again!
>
> Cheers,
> Chris
> VIS/Exelis/Harris
