Subject: Re: Faster approach for total(data,dimension) possible?
Posted by wlandsman on Wed, 24 Jun 2009 16:34:34 GMT
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On Jun 24, 11:38 am, chris <rog...@googlemail.com> wrote:
> Min and Max approach is two times slower in my case, so this doesn't
> seem to be a solution. Any other ideas?
>

    Be sure to calculate min and max at the same time, e.g.
mask1 = max(data,dimen=3,min=mask)
mask = (mask or mask1) NE 0

    But it seems that the best performance is hardware dependent.
Below are the repeatable times in seconds I get for the different
methods for a 1536 x 231 x 126 array on different systems.

{ x86_64 linux unix linux 7.0
TOTAL   0.26
TOTAL(/INTEGER)   0.28
TOTAL(byte)   0.17
MINMAX   0.25

(x_86_64 darwin unix Mac OS X 7.06)
TOTAL   0.24
TOTAL(/INTEGER)   0.16
TOTAL(byte)   0.22
MINMAX   0.24

Since you are getting the best times for the first (TOTAL()) method, I
suspect your hardware is optimized for floating point calculations.
If you were to code it in C (i.e. not worry about loops) the quickest
method should be some variant of ARRAY_EQUAL
where you stop the comparisons once you find a non-zero element in a
band. But until ARRAY_EQUAL gets a dimension keyword like MIN and
MAX I don't think any other IDL method is going to be much faster.
--Wayne