Subject: Re: Using "the IDL way" and it's still not fast enough
Posted by Jeremy Bailin on Wed, 27 Mar 2013 15:14:45 GMT
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On 3/26/13 6:21 PM, Edward Hyer wrote:
> Hello IDL wizards,
>
> I am trying to speed up a routine whose PROFILER looks like this (sorted by total time):
>
> Module Type Count Only(s) Avg.(s) Time(s) Avg.(s)
> REBIN (S) 2158 285.788439 0.132432 285.788439 0.132432
> MIN (S) 272 39.719054 0.146026 39.719054 0.146026
> FILE_SEARCH (S) 4 21.07632 5.26908 21.07632 5.26908
> REFORM (S) 2591 12.59025 0.004859 12.59025 0.004859
>
> The heart of the calculation is a
> MINARRAY = MIN(BIGARRAY,DIM=1), where
> BIGARRAY is [M*N,A,B,C,D] and so
> MINARRAY is [A,B,C,D].
> M=~10,000
> N=~200
> A,B,C,D are all <5
>
> In order to get to BIGARRAY, several steps of REBIN are required. And the result is a calculation that is too slow; it takes 6-20 seconds, depending on the particular machine we run it on. My instinct says that this is not a calculation that should be this slow, though I guess I could be wrong.
>
> Note that 1) I don't think memory is an obstacle, we have 16GB of RAM and the routine has peak usage <3 GB (I would know exactly if there was a working MEMTEST for 64bit IDL); 2) Threading is not really an option, as we intend to multiplex this process with 1 job per processor once we get it tuned.
>
> Does the collective wisdom of the newsgroup have any suggestions as to why this routine might be spending so much time REBINning, and how we might speed it up?
>
> In supplication,
>
> --Edward H.
>

Are you just using REBIN to expand dimensions, or are you actually expanding/shrinking one of the dimensions by an integer number? If the former, are you using /SAMPLE?

-Jeremy.