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Subject: Poor ENVI performance on dual CPU - quad core

Posted by [wita](#) on Tue, 04 Dec 2007 10:53:57 GMT

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Hi,

Recently I started working on a brand new dual CPU quad core machine to do some number crunching on satellite data using ENVI 4.4.

Well, I found that is not exactly the case. A simple 'sum bands' over 538 bandes (5040x2520 pixels) takes ages to complete, progressing about 1% per minute, with none of the 8 cores going to 100% processing and the total CPU usage remaining below 1%.

The weird thing is that when I export a subset of those bands to an IDL variable, the TOTAL function does the same computation in a few seconds where the ENVI 'sum bands' takes minutes to complete. Of course there is the ENVI tiling mechanism in between but this shouldn't be that large a penalty (at least not in my experience).

I investigated this a little bit further and found that the situation dramatically improves when I disabled the IDL thread pool using:

```
cpu, TPOOL_NTHREADS=1
```

Now the 'sum bands' computation makes quick progress and one of the eight cores goes to 100% processing.

So, for some reason ENVI does not seem to handle the IDL thread pool well and this causes a large penalty for certain types of operations within ENVI. Maybe some of you guys have an idea of what is going on here.

At least I thought it was useful to make a post here because a search on this newsgroup did not reveal anything in this direction.

Allard

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