Subject: Re: Speeding up data crunching using IDL_IDLBridge with asychronous execution

Posted by Russell Ryan on Wed, 10 Jul 2013 17:53:28 GMT

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On Wednesday, July 10, 2013 1:40:16 PM UTC-4, nata wrote:
> Wow, this is a MAJOR bug! now I see what you mean....
>
>
>
> I've spent a lot time developing a library to allow parallel computing under IDL and now I realize
that there is a bug that causes memory problems. f**k !
>
> Thank you for pointing it out. What is the bug report error and how can we know if in a future
version this will be solved?
>
>
>
> Thank you Russell to share this,
>
> nata

@Nata,

Trust me, I feel your pain. I had written two large codes for analyzing galaxies, one of the codes
was an advanced MCMC sampler which utilized the bridges to distribute the processing. This
code was very general and (in part) modeled after MPFIT, in terms of usage, flexibility, and
organizational philosophy. The unbridged version is fine, but it's just very slow (what computers
do not have multiple processors, we should be using them). This problem is perfectly
parallelizable, since it has running several simple MCMC chains w/o communicating between the
chains, and at some prescribed time having them exchange information. The plan was, run each
chain on a separate bridge for some time. Then, bring them together for the information
exchange. Then repeat for some amount of time. (It was the Evolutionary MCMC and parallel
tempering sampler). Since this was one of primary usages of the bridges, the scripting solution of
exiting and restarting IDL is particularly clunky for distributing this MCMC sampler.

Again, the thing that kills me the most, is when people use the bridges on shared computers ---
despite numerous warnings from me. I say, spread the word. Exelis is aware of the issue, but my
gut tells me that the more people who complain the faster it gets solved. Outside of my work and
your work, I know of 4 codes used in astronomy which suffer from this problem but the authors
and users are not aware (or don't care).

R