Subject: multi-threaded IDL programming
Posted by markb77 on Sat, 22 Mar 2014 16:07:49 GMT
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I want to try creating objects to do some parallel processing. For example, let's say I need to perform a specific operation on a stack of images. I can create an object that will watch an input queue and wait for an image to be available in the queue. The object would then take the image, process it, and add the results to an output queue. A separate IDL program would be generating the images and collecting the results. In principle, I could create multiple "processing" objects to act in parallel, speeding up the task.

What is the best way to accomplish this in IDL? I am not sure if there is a "queue" object class already written? Would this need to use the IDL-IDL bridge?

Mark

Subject: Re: multi-threaded IDL programming
Posted by Craig Markwardt on Mon, 24 Mar 2014 15:31:10 GMT
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On Saturday, March 22, 2014 12:07:49 PM UTC-4, superchromix wrote:
> What is the best way to accomplish this in IDL? I am not sure if there is a "queue" object class already written? Would this need to use the IDL-IDL bridge?

IDL doesn't really offer multi-threaded capability, other than the "thread pool" for large vectors. If you really need to do this with IDL, the best way is to run multiple copies of IDL at the same time (easiest if you are using a Unix-like operating system).

Craig

Subject: Re: multi-threaded IDL programming
Posted by Matthew Argall on Mon, 24 Mar 2014 15:43:43 GMT
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Mike Galloy and Tech-X have some parallel compute software for IDL
http://michaelgalloy.com/2013/11/14/fastdl-parallel-processi ng-idl.html

Subject: Re: multi-threaded IDL programming
Posted by Phillip Bitzer on Mon, 24 Mar 2014 15:49:04 GMT
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Yes, you would need bridges.

I've had some success with :

http://www.iluvatar.org/~dwijn/parallelidl

You may also want to check out Mike Galloy's TaskDL.

Subject: Re: multi-threaded IDL programming
Posted by Michael Galloy on Mon, 24 Mar 2014 16:47:46 GMT
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On 3/24/14, 9:43 AM, Matthew Argall wrote:
> Mike Galloy and Tech-X have some parallel compute software for IDL
> http://michaelgalloy.com/2013/11/14/fastdl-parallel-processi ng-idl.html
>

I have featured some articles on my website recently showing examples of using mpiDL:

http://michaelgalloy.com/2014/02/25/taskdl-example.html

and TaskDL:

http://michaelgalloy.com/2014/03/11/mpidl-example.html

It seems like you are intending to run "embarassingly parallel" (no communication between workers) tasks on a stack of images which is what TaskDL is designed for. TaskDL runs on Linux, OS X, and Windows (but you need to install Cygwin). It can also run across multiple nodes on Linux and OS X.

Let me know if you have questions or need more information.

Mike
--
Michael Galloy
www.michaelgalloy.com
Modern IDL: A Guide to IDL Programming (http://modernidl.idldev.com)
Research Mathematician
Tech-X Corporation

Subject: Re: multi-threaded IDL programming
Posted by markb77 on Mon, 24 Mar 2014 17:43:04 GMT
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Thanks for the responses. I am running on Windows, and I don't want the code to be dependent on installing Cygwin.. So I would like to check out that Parallel IDL code that Phillip linked to.

Phillip - I can't find the actual code anywhere on that web page.. Is it still available?

thanks
Mark

ps. Ideally this solution would work with the IDL Virtual machine so that it could eventually be distributed.. but I realize this is beyond the capabilities of the IDL-IDL bridge at the moment..

Subject: Re: multi-threaded IDL programming
Posted by Phillip Bitzer on Mon, 24 Mar 2014 19:54:18 GMT
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On Monday, March 24, 2014 12:43:04 PM UTC-5, superchromix wrote:
> Thanks for the responses. I am running on Windows, and I don't want the code to be dependent on installing Cygwin.. So I would like to check out that Parallel IDL code that Phillip linked to.
>
>
>
> Phillip - I can't find the actual code anywhere on that web page.. Is it still available?
>

Sure. On that page (http://www.iluvatar.org/~dwijn/parallelidl), there is a link toward the bottom under the heading "Download" :-)
