Posted by Dave Brennan on Thu, 16 Sep 1999 07:00:00 GMT
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My department is thinking of buying a new Sun system. We are considering
buying a dual processor system. However, to take full advantage of this
I need software that can be run as a multithread.

1. Can IDl be written to take advantage of multithread processing?
2. If so, how is this accomplished, i.e does anyone have any example
code?
3. Can IDL's slicer3 use multithreads when rendering?

Thank in advance

Dave Brennan

Subject: Re: Multiple threads
Posted by davidf on Thu, 16 Sep 1999 07:00:00 GMT
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David Brennan (9147261b@clinmed.gla.ac.uk) writes:

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>
> 1. Can IDl be written to take advantage of multithread processing?

No.

> 2. If so, how is this accomplished, i.e does anyone have any example
> code?

Can't.

> 3. Can IDL's slicer3 use multithreads when rendering?

No. It uses direct graphics.

The *only* thing that can take advantage of multi-processors in
IDL is rendering of object volumes via the HINTS keyword. Nothing
else, sorry. :-(

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting
Phone: 970-221-0438 E-Mail: davidf@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Multiple threads
Posted by korpela on Thu, 16 Sep 1999 07:00:00 GMT
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In article <37E0FE2C.79095DC9@clinmed.gla.ac.uk>,
David Brennan <9147261b@clinmed.gla.ac.uk> wrote:
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> 1. Can IDl be written to take advantage of multithread processing?

IDL is capable of some multiprocessing will appropriate call_externals
and link_images, but not multithreading. I've written some multiprocessing
code, but haven't ever published it, nor is it in a publishable state.
In order to do usable work you need the shared memory capabilities of
my VARRAY package (available at my web site). If you wan't I'll put my
routines somewhere where you can get to them. I haven't yet gotten any
good iplementations of IPCs beyond shared memory.

Here's a simple multiprocessing routine as an example of what I've done....

```
 ---------------------------------------------------------- ---------
function test
; create a 1024x1024 shared float array
 a=VARRAY(float(0),1024,1024,/writable)
; process the [*,0:511] elements in the background
; process the [*,512:1023] elements in the foreground
 if PROC_FORK() eq 0 then begin
   a[*,0:511]=randomn(seed,1024,512)
   PROC_EXIT
 endif else begin
   a[*,512:1023]=randomu(seed,1024,512)
   PROC_WAIT
 endelse
 return,a
end
 ---------------------------------------------------------- ----------
```

> 2. If so, how is this accomplished, i.e does anyone have any example
> code?

Specialized libraries call the system code you need to make new processes.

Eric

--
Eric Korpela | An object at rest can never be
korpela@ssl.berkeley.edu | stopped.
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Subject: Re: Multiple threads
Posted by Liam Gumley on Mon, 20 Sep 1999 07:00:00 GMT
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David Brennan wrote:
> My department is thinking of buying a new Sun system. We are considering
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I can give you the name of someone who has written a set of IDL callable
wrappers for the PVM library. Let me know if you're interested.

Cheers,
Liam.

--
Liam E. Gumley
Space Science and Engineering Center, UW-Madison
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: Multiple threads
Posted by Karl Young on Mon, 20 Sep 1999 07:00:00 GMT
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Hi David,

Ha ha ha ha, ho ho ho, hee hee hee !

Sorry if that sounded flippant. We have an 8 processor Sun space heater (at
least that's the function of 7 processors when we use IDL). The answers to
1. and 2. are basically when hell freezes over. I don't know the answer to
3.
because I don't use slicer3 but based on the answers to 1. and 2. I'm sure
you
could make an educated guess. Since the budget patrol would simply not
find this an acceptable use of such expensive hardware we've had to write
most stuff in C and C++ (using threads and the MPI library) that is called
by IDL. The only reason we use IDL on that machine is because nobody
has time to rewrite our interface code.

If your interested in how we've implemented this stuff send me some email.

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> Thank in advance
>
> Dave Brennan

-- KY

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Subject: Re: Multiple threads
Posted by Dave Brennan on Tue, 21 Sep 1999 07:00:00 GMT
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Thanks for the replys.

However, from what has been said, I don't think at the moment it is worth

getting a dual processor system (why pay more and have more hassle for little performance improvement!)

I find it a bit strange though that IDL can't be implimented in this way. If IDl could be run with multithreads it would enable some of the IDL processing functions such as rendering and projections to be done on the fly (our radiologists would like that!) Is this a possible enhancement of IDL in the future, or will pigs fly first??

Cheers

Dave Brennan