Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by David Fanning on Wed, 18 Nov 2009 18:52:11 GMT
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wlandsman writes:

> Below is a little test program to be called with
> IDL> test, x1,x2,x3,x4,x5,x6,x7,x8,x9
>
> I find it runs instantly from the IDL command line but takes very long
> or hangs the IDL workbench. --Wayne

Yikes! It broke my Windows machine running IDL 7.1 from
the Workbench. JAVA out of memory error.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by Foldy Lajos on Wed, 18 Nov 2009 19:01:42 GMT
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On Wed, 18 Nov 2009, wlandsman wrote:

> Of course, when I tested this, a run that took under 1 second from the
> command prompt completely hung my Mac (x86_64 darwin unix Mac OS X
> 7.1 Apr 21 2009 64 64) when run from the Workbench. My Linux box
> was not quite as bad but also eventually hung with messages such as
>
> java.lang.OutOFMemoryError: unable to create new native thread
> java.lang.ArrayIndexOutOfBoundsException: 2601
>
> The culprit apparently is my use of SCOPE_VARFETCH. readcol.pro
> calls SCOPE_VARFETCH thousands of time for a large file, since it
> writes data directly into the output variables, and uses a
> SCOPE_VARFETCH call for each item written.
>
>
> Below is a little test program to be called with

> IDL> test, x1,x2,x3,x4,x5,x6,x7,x8,x9
>
> I find it runs instantly from the IDL command line but takes very long
> or hangs the IDL workbench. --Wayne
>
>
> pro test,a,b,c,d,e,f,g,h,j
>
> vv = ['a','b','c','d','e','f','g','h','j']
> for k=0,8 do begin ;Create output variables
> res = execute(vv[k] + '=fltarr(5000)')
> endfor
> for jj=0,4999 do for k=0,8 do (scope_varfetch(vv[k],Level=0))[jj]=float(jj)
> return
> end

There is no time difference between the CLI and GUI runs in IDL 7.0 on 64 bit linux. (It's a fresh openSUSE 11.2 machine with the OpenJDK 1.6 java environment.)

Temporary buffers will solve your problem:

```
pro test,a,b,c,d,e,f,g,h,j

vv = ['a','b','c','d','e','f','g','h','j']

ptmp=ptrarr(9)
for k=0,8 do begin ;Create output variables
  ptmp[k] = ptr_new(fltarr(5000))
endfor

for jj=0l,4999 do for k=0,8 do (*(ptmp[k]))[jj]=float(jj)

for k=0,8 do begin
  (scope_varfetch(vv[k],Level=0))=temporary(*(ptmp[k]))
endfor

ptr_free, ptmp

return
end
```

(Even the EXECUTEs have vanished :-)

regards,
lajos

Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by wlandsman on Wed, 18 Nov 2009 19:28:22 GMT
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On Nov 18, 2:01 pm, FÖLDY Lajos <fo...@rmki.kfki.hu> wrote:

> There is no time difference between the CLI and GUI runs in IDL 7.0 on 64
> bit linux. (It's a fresh openSUSE 11.2 machine with the OpenJDK 1.6 java
> environment.)

I also find no problem with IDL 7.0 on Red Hat 3.4.5-2. So most
likely this is a bug introduced in IDL 7.1.

> Temporary buffers will solve your problem:

Well, its a workaround for the problem (and appears to be somewhat
faster even on the command line). But it would still be nice to get
the SCOPE_VARFETCH bug fixed.

--Wayne

Thanks, --Wayne

Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by penteado on Wed, 18 Nov 2009 19:36:58 GMT
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On Nov 18, 4:19 pm, wlandsman <wlands...@gmail.com> wrote:
> I recently received a note from a user saying that my procedure
> readcol.pro
> (http://idlastro.gsfc.nasa.gov/ftp/pro/misc/readcol.pro) - one of
> many such procedures to read an ASCII file into IDL variables -- was
> taking ~100 times longer to run from the IDL workbench than from the
> IDL command prompt. I of course replied that this was complete
> nonsense, and that the interface used to call the procedure shouldn't
> affect its speed.
>
> Of course, when I tested this, a run that took under 1 second from the
> command prompt completely hung my Mac (x86_64 darwin unix Mac OS X
> 7.1 Apr 21 2009 64 64) when run from the Workbench. My Linux box
> was not quite as bad but also eventually hung with messages such as
>
> java.lang.OutOFMemoryError: unable to create new native thread
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>

> The culprit apparently is my use of SCOPE_VARFETCH. readcol.pro
> calls SCOPE_VARFETCH thousands of time for a large file, since it
> writes data directly into the output variables, and uses a
> SCOPE_VARFETCH call for each item written.
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> vv = ['a','b','c','d','e','f','g','h','j']
> for k=0,8 do begin ;Create output variables
> res = execute(vv[k] + '=fltarr(5000)')
> endfor
> for jj=0,4999 do for k=0,8 do (scope_varfetch(vv[k],Level=0))[jj]=
> float(jj)
> return
> end

Very odd. It ran in the Workbench in about the same time, but after it is done, a lot of error messages get written to the terminal from which I called the Workbench, and after a few seconds, the Workbench dies with the same kind of error messages. This is with IDL 7.1 on Fedora 11 64 bit.

I tried turning off some visualizations (I though that Debug and Variables might be doing something to keep track of the call stack and local scope variables, and the problem might be there), but saw no change. I would write to ITTVIS, since this is definitely a bug.

Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by Heinz Stege on Wed, 18 Nov 2009 20:07:12 GMT
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Seems to be a bug in the IDL 7.1 workbench. The workbench craches with a lot of java errors in { x86 Win32 Windows Microsoft Windows 7.1.1 Aug 19 2009 32 64}.

Your test program runs fast and without errors in the command line version as well as in the version 7.0 workbench { x86 Win32 Windows Microsoft Windows 7.0 Oct 25 2007 32 64}.

Heinz

Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by wlandsman on Thu, 19 Nov 2009 02:55:43 GMT
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On Nov 18, 3:07 pm, Heinz Stege <public.215....@arcor.de> wrote:
> Seems to be a bug in the IDL 7.1 workbench. The workbench craches
> with a lot of java errors in { x86 Win32 Windows Microsoft Windows
> 7.1.1 Aug 19 2009 32 64}.
>
A little bird told me that ITTVIS had discovered this bug about 3
weeks ago, and already has made the fix, which will be included in the
next IDL patch release. --Wayne

Subject: Re: Scope_Varfetch "IDL workbench" train wreck
Posted by bokubo on Mon, 23 Nov 2009 16:56:56 GMT
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On Nov 18, 7:55 pm, wlandsman <wlands...@gmail.com> wrote:
> On Nov 18, 3:07 pm, Heinz Stege <public.215....@arcor.de> wrote:> Seems to be a bug in the IDL 7.1 workbench. The workbench craches
>> with a lot of java errors in { x86 Win32 Windows Microsoft Windows
>> 7.1.1 Aug 19 2009 32 64}.
>
> A little bird told me that ITTVIS had discovered this bug about 3
> weeks ago, and already has made the fix, which will be included in the
> next IDL patch release. --Wayne

The fix is CR56369 and it is now available in the IDL 7.1.2 patch
release. Please note, you will need to contact ITT VIS Technical
Support (TechSupport@ittvis.com) for the link to download this patch.
Be sure to mention your OS platform and architecture (32 or 64 bit).
Other than this CR, this patch releas fixes an issue with extended
ascii characters.

Bill Okubo, IDL Product Manager