
Subject: `_EXTRA` inheritance crashing IDL
Posted by [Rob.Preece](#) on Wed, 10 Apr 2002 21:25:17 GMT
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OK, Rob de-lurking here.

Has anyone seen a behavior where IDL 5.5 crashes on a call to a subroutine with an added `_EXTRA` keyword? I have found the same behavior on several different machines, Linux and Mac, which does not exist under 5.4. Here goes a test case:

```
PRO test1, _REF_EXTRA = extra

    testStuff = ['TITLE','XTITLE','YTITLE']

    test2, INDGEN (10), _EXTRA = [testStuff, 'XRANGE']
```

END

```
PRO test2, plotStuff, _EXTRA = extra

    PLOT, plotStuff, plotStuff, _EXTRA = extra
```

END

Compile and execute :

```
IDL> test1, XRANGE = [-1, 10]
```

On 5.4, I get a nice plot, with my new XRANGE. On 5.5, I get a *totally irrelevant* error message:

```
% File expression not allowed in this context: <no name>
```

The error message varies, depending on when in my code I call a subroutine using the `_EXTRA` keyword. Once, I hard crashed IDL on my Mac iBook. I would very much appreciate any suggestions / tips, since this is candidate release code, and I have to tell my users if they can or must not use IDL 5.5!

Thanks!

- Rob

```
=====
+ Robert D. Preece    Rob.Preece@nsstc.nasa.gov
+ Dept. of Physics, Univ. of Alabama in Huntsville
```

+ Phone: (256) 961-7654 FAX: (256) 961-7215
+ SD50, National Space Science & Technology Center
+ 320 Sparkman Drive, Huntsville, AL 35805

Subject: Re: _EXTRA inheritance crashing IDL
Posted by [David Fanning](#) on Thu, 11 Apr 2002 20:28:46 GMT
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Rob Preece (Rob.Preece@msfc.nasa.gov) writes:

> I have a *very* good reason for doing it this way (otherwise, why bother!
> ;) I have a set of keywords to pass on to an embedded plot routine, and I
> can't know at the time what their values will be. I have a plot zooming
> function in a widget (object) that simply calls the object's 'PLOT'
> method, passing new x and y ranges. The plot method does some stuff, and
> then hands it all off to the IDL (direct) PLOT routine, adding in the
> 'XRANGE' and 'YRANGE' keywords so that they can be overridden when the
> 'ZOOM' method is invoked. Very much like 'test1' in my sample code. Since
> I followed the documentation as Mark H. mentioned, is this a valid bug in
> IDL? How to proceed?

Yeah, I learned something new yesterday. :-(

It looks to me like you followed the documentation exactly. So it
looks like a bug to me. I'd contact RSI and see what they say.
And be sure to let us know.

> Maybe I'll just go for a beer (unfortunately, no good Colorado brews make
> it into Alabama!)

Well, I'll buy you a Fat Tire if you are ever out
this way. :-)

Cheers,

David

--

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: _EXTRA inheritance crashing IDL

"Rob Preece" <Rob.Preece@msfc.nasa.gov> wrote in message
news:Rob.Preece-1104021521040001@biggamma.nsstc.nasa.gov...

>
> I have a *very* good reason for doing it this way (otherwise, why
> bother! ;) I have a set of keywords to pass on to an embedded plot
> routine, and I can't know at the time what their values will be. I
> have a plot zooming function in a widget (object) that simply calls
> the object's 'PLOT' method, passing new x and y ranges. The plot
> method does some stuff, and then hands it all off to the IDL
> (direct) PLOT routine, adding in the 'XRANGE' and 'YRANGE' keywords
> so that they can be overridden when the 'ZOOM' method is
> invoked. Very much like 'test1' in my sample code. Since I followed
> the documentation as Mark H. mentioned, is this a valid bug in IDL?
> How to proceed?

Yes it's a bug. Report it to IDL.

Re the need to do it this way, if you're passing specific keywords
then you don't *need* to use inheritance. Eg this...

```
PRO test1, _REF_EXTRA=extra
  test2, INDGEN (10), _EXTRA = ['TITLE','XTITLE','YTITLE', 'XRANGE']
END
```

...can be written...

```
PRO test1, TITLE=title, XTITLE=xtitle, YTITLE=ytitle, XRANGE=xrange
  test2, INDGEN (10), TITLE=title, XTITLE=xtitle, YTITLE=ytitle, $
    XRANGE=xrange
END
```

(I note that your original test1 was a little more complicated than
the one I have written. Was there a reason for that?)

If you want to direct different keywords to different routines you can
do this.

```
PRO test1, TITLE=title, XTITLE=xtitle, YTITLE=ytitle, XRANGE=xrange
  test2, INDGEN (10), TITLE=title, XTITLE=xtitle,
  test3, YTITLE=ytitle, XRANGE=xrange
END
```

or even

```
PRO test1, TITLE=title, XTITLE=xtitle, YTITLE=ytitle, XRANGE=xrange, $
  _EXTRA=extra
```

```
test2, INDGEN (10), TITLE=title, XTITLE=xtitle,  
test3, YTITLE=ytitle, X RANGE=xrange  
test4, _EXTRA=extra  
END
```

Defaults can be supplied and overridden for explicit or inherited keywords, eg:

```
PRO test1, KEY1=key1, _EXTRA=extra  
  if n_elements(key1) eq 0 then key1 = 33  
  test2, indgen(10), KEY1=key1, KEY2=33, _EXTRA  
END
```

The default for key1 is obvious, What's not so obvious is that if I call

```
IDL> test1, KEY2=66
```

then this value is passed to test2, overriding 33.

Warning: if you use this last technique with IDL 5.4 you must use inheritance by value not reference because there was a bug in 5.4.

Of course with the different bugs in different versions you may well decide to leave your code as it is and stick with 5.4!

--

Mark Hadfield
m.hadfield@niwa.co.nz Ka puwaha et tai nei
http://katipo.niwa.co.nz/~hadfield Hoesa tatou
National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: _EXTRA inheritance crashing IDL
Posted by [Rob.Preece](#) on Fri, 12 Apr 2002 15:20:33 GMT
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In article <a950i2\$6j6\$1@newsreader.mailgate.org>, "Mark Hadfield"
<m.hadfield@niwa.co.nz> wrote:

```
>  
> Yes it's a bug. Report it to IDL.  
>
```

I did, and found that it is a known issue, to be fixed in version 5.6.
David asked for RSI's response to be posted, so here goes:

RE: Incident #: 120580 Tech Support Submission

I believe in your case, however, that you are actually experiencing the symptoms of a known bug that appeared first in IDL 5.5, and has already been identified and recoded for subsequent release in IDL 5.6. Here is the bug report:

"Title: "Passing _REF_EXTRA keyword name without specifying keyword crashes IDL"

Description:

Compile the following procedures in IDL:

```
pro test2, junk=junk
    print, 'hi'
end
pro test, _REF_EXTRA=_extra
    test2, _Extra='junk'
end
```

Calling "test" without passing the JUNK keyword causes a SegFault on Solaris and dereference error (at 0xffffffff) on Windows, and crashes IDL.

Resolution:

This is an internal logic error, in which IDL was looking for _REF_EXTRA variables to pass on even though the current frame has no such variables."

James Jay Jones
Technical Support Engineer
RSI Incorporated
Tel: +1 (303) 413-3920
Email: support@rsinc.com

Note: I have snipped out some comments and suggestions that James made, as they were not appropos to my problem; see below.

> Re the need to do it this way, if you're passing specific keywords
> then you don't *need* to use inheritance. Eg this...
>
<snip>

OK. My example code simply illustrated the crash, it does not show the rationale behind it. Suffice it to say that I hit upon this method by reading the documentation, and it solved much head-banging that had been going on. The short answer as to why I do it this way is that I have a quite generic plotting method that can be called under many circumstances; some keywords must not be passed on, while an unknown number (and unknowable, except at runtime) of others can. It was a perfect match for the _REF_EXTRA mechanism...

>
> Warning: if you use this last technique with IDL 5.4 you must use
> inheritance by value not reference because there was a bug in 5.4.
>
> Of course with the different bugs in different versions you may well
> decide to leave your code as it is and stick with 5.4!
>

Ack! This is what I will do. Thanks all!

=====
+ Robert D. Preece Rob.Preece@nsstc.nasa.gov
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=====

Subject: Re: _EXTRA inheritance crashing IDL
Posted by [R.Bauer](#) on Sun, 14 Apr 2002 19:43:29 GMT
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Rob Preece wrote:

>
> In article <a950i2\$6j6\$1@newsreader.mailgate.org>, "Mark Hadfield"
> <m.hadfield@niwa.co.nz> wrote:
>
>>
>> Yes it's a bug. Report it to IDL.
>>
>
> I did, and found that it is a known issue, to be fixed in version 5.6.
> David asked for RSI's response to be posted, so here goes:
>
> -----
> RE: Incident #: 120580 Tech Support Submission
>

Dear Rob,
here is a solution of your problem.

Exchange _EXTRA with _STRICT_EXTRA then it works
But then you have always to write completely the keywords as
you did in the example.

regards
Reimar

```
PRO test1, _REF_EXTRA = extra,dummy=dummy
```

```
    testStuff = ['TITLE','XTITLE','YTITLE']
```

```
    test2, INDGEN (10), _EXTRA = [testStuff, 'XRANGE']
```

```
END
```

```
PRO test2, plotStuff, _STRICT_EXTRA = extra
```

```
    PLOT, plotStuff, plotStuff, _EXTRA = extra
```

```
END
```

```
--
```

Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)

Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

a IDL library at ForschungsZentrum Juelich

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml

Subject: Re: _EXTRA inheritance crashing IDL
Posted by [R.Bauer](#) on Sun, 14 Apr 2002 19:48:57 GMT
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Sorry forget my last answer I did a type mismatch!

Reimar

```
--
```

Reimar Bauer

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a IDL library at ForschungsZentrum Juelich

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml