Subject: _EXTRA inheritance crashing IDL Posted by Rob.Preece on Wed, 10 Apr 2002 21:25:17 GMT View Forum Message <> Reply to Message

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
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Subject: Re: _EXTRA inheritance crashing IDL Posted by David Fanning on Thu, 11 Apr 2002 20:28:46 GMT View Forum Message <> Reply to Message

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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Subject: Re: _EXTRA inheritance crashing IDL

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"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, XRANGE=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
Hoea 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 View Forum Message <> Reply to Message

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'

Calling "test" without passing the JUNK keyword causes a SegFault on Solaris and dereference error (at 0xffffffc) 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 completly 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-iuelich.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 View Forum Message <> Reply to Message

Sorry forget my last answer I did a type mismatch!

Reimar

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