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Subject: Re: IDL removes dimensions of size 1 automatically  
Posted by [Paul Van Delst\[1\]](#) on Fri, 24 Sep 2004 18:14:14 GMT  
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Benjamin Hornberger wrote:

```
> Hi all,  
>  
> I had a hard time finding a bug which came from IDL's behaviour to  
> remove dimensions of size 1 automatically sometimes.  
>  
> IDL> a=[[1u,1u]]  
> IDL> help,a  
> A          UINT      = Array[2]  
> IDL> ;; IDL doesn't even let me specify this (2,1) element array  
> IDL> a=reform(a,2,1)  
> IDL> help,a  
> A          UINT      = Array[2, 1]  
> IDL> b=fix(a)  
> IDL> help,b  
> B          INT       = Array[2]  
> IDL> ;; IDL removed my second dimension even though I just wanted to  
> change the type  
> IDL> c=2*a  
> IDL> help,c  
> C          INT       = Array[2]  
> IDL> print,c  
>      2      2  
> IDL> ;; again IDL kicked out my second dimension  
>  
> I found this very annoying. Does anyone know more about it? Why is it  
> like that? In which situations will IDL do that?
```

Only trailing dimensions of size 1 are removed.

```
IDL> x=fltarr(20,1,1,1,1)  
IDL> help, x  
X          FLOAT      = Array[20]  
IDL> x=fltarr(1,1,1,1,20)  
IDL> help, x  
X          FLOAT      = Array[1, 1, 1, 1, 20]  
IDL> x=fltarr(20,1,3,1,1)  
IDL> help, x  
X          FLOAT      = Array[20, 1, 3]
```

This has always been the case (in my experience) - much to the consternation of some IDL users, and to the joy to others. YMMV.

paulv

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Subject: Re: IDL removes dimensions of size 1 automatically

Posted by [btt](#) on Fri, 24 Sep 2004 20:16:41 GMT

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Paul Van Delst wrote:

> Benjamin Hornberger wrote:

>

>> Hi all,

>>

>> I had a hard time finding a bug which came from IDL's behaviour to

>> remove dimensions of size 1 automatically sometimes.

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>> IDL> a=[[1u,1u]]

>> IDL> help,a

>> A            UINT     = Array[2]

>> IDL> ;; IDL doesn't even let me specify this (2,1) element array

>> IDL> a=reform(a,2,1)

>> IDL> help,a

>> A            UINT     = Array[2, 1]

>> IDL> b=fix(a)

>> IDL> help,b

>> B            INT      = Array[2]

>> IDL> ;; IDL removed my second dimension even though I just wanted to

>> change the type

>> IDL> c=2\*a

>> IDL> help,c

>> C            INT      = Array[2]

>> IDL> print,c

>>     2     2

>> IDL> ;; again IDL kicked out my second dimension

>>

>> I found this very annoying. Does anyone know more about it? Why is it

>> like that? In which situations will IDL do that?

>

>

> Only trailing dimensions of size 1 are removed.

>

> IDL> x=fltarr(20,1,1,1,1)

> IDL> help, x

> X            FLOAT     = Array[20]

> IDL> x=fltarr(1,1,1,1,20)

> IDL> help, x

> X            FLOAT     = Array[1, 1, 1, 1, 20]

> IDL> x=fltarr(20,1,3,1,1)

> IDL> help, x

> X            FLOAT     = Array[20, 1, 3]

>

> This has always been the case (in my experience) - much to the

> consternation of some IDL users, and to the joy to others. YMMV.

>

And,... when you think that the trailing dimension is important then use REFORM liberally...

```
IDL> a = reform(intarr(2,1),2,1)
IDL> help, a
A          INT      = Array[2, 1]
IDL> dim = SIZE(a, /dim)
IDL> b = REFORM(a,dim)
IDL> help, b
B          INT      = Array[2, 1]
IDL> b = REFORM(a*2,dim)
IDL> help, b
B          INT      = Array[2, 1]
```

Ben

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Subject: Re: IDL removes dimensions of size 1 automatically  
Posted by [R.Bauer](#) on Sun, 26 Sep 2004 08:36:34 GMT  
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Benjamin Hornberger wrote:

```
> Hi all,
>
> I had a hard time finding a bug which came from IDL's behaviour to
> remove dimensions of size 1 automatically sometimes.
>
> IDL> a=[[1u,1u]]
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> B          INT     = Array[2]
> IDL> ;; IDL removed my second dimension even though I just wanted to
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> IDL> c=2*a
> IDL> help,c
> C          INT     = Array[2]
> IDL> print,c
>      2      2
> IDL> ;; again IDL kicked out my second dimension
```

>  
> I found this very annoying. Does anyone know more about it? Why is it  
> like that? In which situations will IDL do that?  
>  
> Thanks for any comments,  
>  
> Benjamin

Dear Benjamin

this is regular discussed here. It's not a bug because this is described in all documents about array handling from RSI.

I have had a lot of problems by this too. You could do a feature request to to get a compiler option implemented which controls this too.

Here are an additional examples about this:

```
IDL> c=reform(make_array(10,1),10,1)
IDL> help,c
C          FLOAT    = Array[10, 1]
IDL> D=C
IDL> help,D
D          FLOAT    = Array[10]
```

The solution is:

```
IDL> c=reform(make_array(10,1),10,1)
IDL> s=size(c,/dim)
IDL> d=reform(c,s)
IDL> help,d
D          FLOAT    = Array[10, 1]
```

Reimar

--

Forschungszentrum Juelich  
email: R.Bauer@fz-juelich.de  
<http://www.fz-juelich.de/icg/icg-i/>

=====

a IDL library at Forschungszentrum Juelich  
[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)

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Subject: Re: IDL removes dimensions of size 1 automatically

Posted by [Mark Hadfield](#) on Sun, 26 Sep 2004 22:46:46 GMT

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Benjamin Hornberger wrote:

- > I had a hard time finding a bug which came from IDL's behaviour to
- > remove dimensions of size 1 automatically sometimes.
- >
- > ...
- >
- > I found this very annoying. Does anyone know more about it? Why is it
- > like that?

Since others have already responded on these points I will be brief:

So do I.

No, I think you know as much as anyone.

Why indeed?

- > In which situations will IDL do that?

I think the only answer you can rely on is "Whenever you don't want it to".

Seriously, you can \*create\* arrays with a trailing dimension of size 1 and you can pass them in and out of routines, but beyond that you should assume that IDL will lose the trailing dimension.

I support the idea of a compiler option to turn this behaviour off. I suspect, however, that implementing it would open up a Pandora's box of worms, as the saying goes.

--

Mark Hadfield            "Ka puwaha te tai nei, Hoesa tatou"

m.hadfield@niwa.co.nz

National Institute for Water and Atmospheric Research (NIWA)

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Subject: Re: IDL removes dimensions of size 1 automatically

Posted by [David Fanning](#) on Mon, 27 Sep 2004 07:20:57 GMT

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Mark Hadfield writes:

- > I support the idea of a compiler option to turn this behaviour off. I
- > suspect, however, that implementing it would open up a Pandora's box of
- > worms, as the saying goes.

I think you must be doing a literal translation from

the German. :-)

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Phone: 970-221-0438, IDL Book Orders: 1-888-461-0155

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Subject: Re: IDL removes dimensions of size 1 automatically

Posted by [R.Bauer](#) on Wed, 29 Sep 2004 15:01:15 GMT

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David Fanning wrote:

> Mark Hadfield writes:

>

>

>> I support the idea of a compiler option to turn this behaviour off. I

>> suspect, however, that implementing it would open up a Pandora's box of

>> worms, as the saying goes.

>

>

> I think you must be doing a literal translation from

> the German. :-)

>

Die B  chse der Pandora

Nach der griechischen Mythologie wurde die ver  hrerische Pandora von Hephaistos erschaffen. Zeus gab ihr ein Gef    mit, die B  chse der Pandora, das zahlreiche   bel enthielt, als Bestrafung f  r den Diebstahl des Prometheus, der den Menschen das Feuer gebracht hatte. Als Pandora das Gef      ffnete, verteilten sich sofort diese   bel   ber die gesamte Erde. Einzig die Hoffnung blieb in Pandoras B  chse zur  ck.

( [http://www.noeastro.de/Astrologie/Astro\\_Aktuell/Astro\\_News/s\\_tammzellen.jsp](http://www.noeastro.de/Astrologie/Astro_Aktuell/Astro_News/s_tammzellen.jsp))

David, did you have enjoyed the soccer match yesterday?

Reimar

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Subject: Re: IDL removes dimensions of size 1 automatically  
Posted by [David Fanning](#) on Wed, 29 Sep 2004 18:46:35 GMT  
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Reimar Bauer writes:

> David, did you have enjoyed the soccer match yesterday?

Nein, ich habe nicht der Television and ich muss Duetsch  
gelernen fur zwei ur drei Uhrs. :-(

Prost,

David

--

David W. Fanning, Ph.D.  
Fanning Software Consulting, Inc.  
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>  
Phone: 970-221-0438, IDL Book Orders: 1-888-461-0155

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Subject: Re: IDL removes dimensions of size 1 automatically  
Posted by [Mark Hadfield](#) on Thu, 30 Sep 2004 00:07:03 GMT  
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Reimar Bauer wrote:

> David Fanning wrote:

>

>> Mark Hadfield writes:

>>

>>

>>> I support the idea of a compiler option to turn this behaviour off. I

>>> suspect, however, that implementing it would open up a Pandora's box

>>> of worms, as the saying goes.

>>

>>

>> I think you must be doing a literal translation from the German. :-)

>>

>

>

> Die Bï½chse der Pandora

Mit Wurmen?

--

Mark Hadfield            "Ka puwaha te tai nei, Hoesa tatou"  
m.hadfield@niwa.co.nz  
National Institute for Water and Atmospheric Research (NIWA)

---

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Subject: Re: IDL removes dimensions of size 1 automatically

Posted by [R.Bauer](#) on Sun, 03 Oct 2004 07:14:56 GMT

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Mark Hadfield wrote:

> Reimar Bauer wrote:

>> David Fanning wrote:

>>

>>> Mark Hadfield writes:

>>>

>>>

>>>> I support the idea of a compiler option to turn this behaviour off. I

>>>> suspect, however, that implementing it would open up a Pandora's box

>>>> of worms, as the saying goes.

>>>

>>>

>>> I think you must be doing a literal translation from the German. :-)

>>>

>>

>>

>> Die Bï½chse der Pandora

>

> Mit Wurmen?

Ja (Wï½œrmer), und anderem i½œbel.

Reimar

--

Forschungszentrum Juelich  
email: [R.Bauer@fz-juelich.de](mailto:R.Bauer@fz-juelich.de)  
<http://www.fz-juelich.de/icg/icg-i/>

=====

a IDL library at Forschungszentrum Juelich  
[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html)

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