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Subject: Re: indexing over structure tags  
Posted by [R.Bauer](#) on Tue, 24 Apr 2001 07:45:13 GMT  
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Randall Skelton wrote:

>  
> Thanks Tom... I did think of that. However, in this particular case there  
> is some merit in having the name of the structure be a useful and human  
> readable tag. Nobody would be happy trying to remember yet another  
> arbitrary numbering scheme for molecules when they'd rather just type the  
> name ;) My suspicion is that there isn't an easy way to do what I want...  
>  
> Randall  
>

Dear Randall,

I will show you an easy way, how to access any level of a structure  
by incrementing of a an array.

may be we have a structure like

```
pi={name:'p.mustermann'}  
global={pi:pi}  
n2o={param:fltarr(10),short_name:'N2O',long_name:'mixing  
ratio',units:'ppb',flag:'NONE'}  
time={param:fltarr(10),short_name:'time',long_name:'time  
[UT]',units:'seconds since 2000-01-01 00:00:00 UTC', flag:'NONE'}  
  
icgs={!global:global,time:time,n2o:n2o}
```

more attribute of this data structure are explained by my publication.  
<http://www.fz-juelich.de/zb/text/publikation/juel3786.html>

The following routine creates an array of tagnames and an  
array of pointers of any submitted structure  
The return value of this function is n\_elements(names)  
and the keywords names and ptr\_values

```
n=struct2names_and_ptrss(icgs,names=names,ptr_values=ptr_valu es)  
PRINT,n  
IDL> 11  
  
IDL> PRINT,names  
!GLOBAL.PI.NAME TIME.PARAM TIME.SHORT_NAME TIME.LONG_NAME TIME.UNITS
```

TIME.FLAG  
N2O.PARAM N2O.SHORT\_NAME N2O.LONG\_NAME N2O.UNITS N2O.FLAG

```
IDL> FOR I=0,n-1 do help,*(ptr_values[i])  
<PtrHeapVar1> STRING = 'p.mustermann'  
<PtrHeapVar2> FLOAT = Array[10]  
<PtrHeapVar3> STRING = 'time'  
<PtrHeapVar4> STRING = 'time [UT]'  
<PtrHeapVar5> STRING = 'seconds since 2000-01-01 00:00:00 UTC'  
<PtrHeapVar6> STRING = 'NONE'  
<PtrHeapVar7> FLOAT = Array[10]  
<PtrHeapVar8> STRING = 'N2O'  
<PtrHeapVar9> STRING = 'mixing ratio'  
<PtrHeapVar10> STRING = 'ppb'  
<PtrHeapVar11> STRING = 'NONE'
```

[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/struct2names\\_and\\_ptrnames.tar.gz](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_source/idl_html/dbase/download/struct2names_and_ptrnames.tar.gz)

This routine was written to use by add\_tag, delete\_tag, replace\_tagvalue and rename\_tag

on each level of a structure with the following routine you are able to build any structure defined from names and ptr\_values.

[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_source/idl\\_html/dbase/download/names\\_and\\_ptrnames2struct.tar.gz](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_source/idl_html/dbase/download/names_and_ptrnames2struct.tar.gz)

For further routines and licensing please look at  
[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_lib\\_intro.h.html](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h.html)

Is this the solution of your problem?

Reimar

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a IDL library at ForschungsZentrum Jülich  
[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html)

<http://www.fz-juelich.de/zb/text/publikation/juel3786.html>

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