
Subject: dependency tree / call graph in idl (cscope for idl)?

Posted by [Sven Utcke](#) on Wed, 19 Nov 2008 15:51:46 GMT

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Hi,

what's the recommended way to do dependency tracking in IDL, you know, FUNCTION X depends on PRO Y which calls FUNCTIONS A, B, and C. That stuff. Preferably, but not necessarily from emacs?

In C, I would for example use cscope <<http://cscope.sourceforge.net/>>.

Reason I'm asking: I inherited a project with quite a few interdependent files (79 files so far, with 14000 lines, but I'm sure to find I missed some once dependency tracking works), and in order to get any idea at all what this is doing I would like to look at some sort of call graph.

So what is the IDL-way of doing this?

Sven

--

_____ Dr.-Ing. Sven Utcke
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| (| ' < \ _ \ _ \ fax : +49 40 899-4-5317 | |) | _ | _ \ \ V /
_ | _ | \ \ \ _ | _ / http://www.desy.de/~utcke (to come) | _ / | _ | _ / | _ |

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Michael Galloy](#) on Wed, 19 Nov 2008 16:35:32 GMT

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On Nov 19, 8:51 am, Sven Utcke <utcke+n...@informatik.uni-hamburg.de> wrote:

- > what's the recommended way to do dependency tracking in IDL, you know,
- > FUNCTION X depends on PRO Y which calls FUNCTIONS A, B, and C. That
- > stuff. Preferably, but not necessarily from emacs?
- >
- > In C, I would for example use cscope <<http://cscope.sourceforge.net/>>.
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- > get any idea at all what this is doing I would like to look at some
- > sort of call graph.
- >
- > So what is the IDL-way of doing this?

There is nothing I know in IDL that would do this currently. The only suggestion I have is to start a fresh IDL session. Compile the 79 files that you have so far and then use RESOLVE_ALL. This will compile routines that are called by the original 79 (and the routines that are called by those routines, etc.). There should be messages in the output log like "% Compiled module: ..." that should give an indication of the needed routines. Of course, this is far short of a call graph, but might serve depending on your requirements.

I have thought about adding such a feature to IDLdoc. At some point, I think I will need a full blown IDL parser to extract all the information I want to get from a code base.

Mike

--

www.michaelgalloy.com
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Associate Research Scientist

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Sven Utcke](#) on Wed, 19 Nov 2008 18:30:21 GMT

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"mgalloy@gmail.com" <mgalloy@gmail.com> writes:

> On Nov 19, 8:51½am, Sven Utcke <utcke+n...@informatik.uni-hamburg.de>
> wrote:

>> So what is the IDL-way of doing this?

>

> There is nothing I know in IDL that would do this currently. The only
> suggestion I have is to start a fresh IDL session. Compile the 79
> files that you have so far

Any easy< way to do that, as they are in several (sub) directories?

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> called by those routines, etc.). There should be messages in the
> output log like "% Compiled module: ..." that should give an
> indication of the needed routines. Of course, this is far short of a
> call graph, but might serve depending on your requirements.

It would at least tell me which routines I had missed so far, but
alas:

IDL> RESOLVE_ALL

```
% Attempt to call undefined procedure/function: 'HALT'.
% Error occurred at: RESOLVE_ALL_BODY 290
/opt/products/idl/7.0/idl70/lib/resolve_all.pro
% RESOLVE_ALL 351
/opt/products/idl/7.0/idl70/lib/resolve_all.pro
% $MAIN$
% Execution halted at: $MAIN$
```

Does not look to good, does it?

Sven

--

```
Dr.-Ing. Sven Utcke
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| ( | ' < \ _ \ _ \ fax : +49 40 899-4-5317 | ) | _ | _ \ \ V /
\ _ | _ | \ _ \ _ | _ / http://www.desy.de/~utcke (to come) | _ | _ | _ / | _ |
```

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Sven Utcke](#) on Wed, 19 Nov 2008 18:34:24 GMT

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Paolo <pgrigis@gmail.com> writes:

```
> David Fanning wrote:
>> Sven Utcke writes:
>>
>>> what's the recommended way to do dependency tracking in IDL, you know,
>>> FUNCTION X depeneds on PRO Y which calls FUNCTIONs A, B, and C. That
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>>> In C, I would for example use cscope <http://cscope.sourceforge.net/>.
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>>> to find I missed some once dependency tracking works), and in order to
>>> get any idea at all what this is doing I would like to look at some
>>> sort of call graph.
>>>
>>> So what is the IDL-way of doing this?
>>
>> Whew! Don't you just hate it when someone comes to IDL for
>> the first time from a modern programming language. :-(
>
> This task may not even be *feasible* if the program does not
> consistently use square brackets for array!
```

Well, it might not be that bad. [c,e,idl]tags at least finds all

function and procedure definitions (although I would wish it would also find each place where a function is called, but there). Would be nice to also have global variables (which are used extensively within the code in question --- is this good IDL praxis?), but I guess it ought to be possible to hack [e,idl]tags to do that. But again this leaves the problem of finding all uses...

Sven

--

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_ | _ | \ _ \ _ | _ / http://www.desy.de/~utcke (to come) | _ / | _ | _ / | _

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Michael Galloy](#) on Wed, 19 Nov 2008 21:08:58 GMT

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On Nov 19, 11:30 am, Sven Utcke <utcke+n...@informatik.uni-hamburg.de> wrote:

> "mgal...@gmail.com" <mgal...@gmail.com> writes:

>> On Nov 19, 8:51 am, Sven Utcke <utcke+n...@informatik.uni-hamburg.de>

>> wrote:

>>> So what is the IDL-way of doing this?

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>> There is nothing I know in IDL that would do this currently. The only

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>> routines that are called by the original 79 (and the routines that are

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>

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> % RESOLVE_ALL 351

> /opt/products/idl/7.0/idl70/lib/resolve_all.pro

```
> % $MAIN$
> % Execution halted at: $MAIN$
>
> Does not look to good, does it?
```

This is telling you that you are missing HALT. And furthermore, halt.pro is not in your !path.

Mike

--

www.michaelgalloy.com

Tech-X Corporation

Associate Research Scientist

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Craig Markwardt](#) on Thu, 20 Nov 2008 03:26:33 GMT

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On Nov 19, 1:30 pm, Sven Utcke <utcke+n...@informatik.uni-hamburg.de> wrote:

```
>
> It would at least tell me which routines I had missed so far, but
> alas:
>
> IDL> RESOLVE_ALL
> % Attempt to call undefined procedure/function: 'HALT'.
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> % RESOLVE_ALL 351
> /opt/products/idl/7.0/idl70/lib/resolve_all.pro
> % $MAIN$
> % Execution halted at: $MAIN$
>
> Does not look to good, does it?
```

Really you want to do something like,
RESOLVE_ALL, /CONTINUE, UNRESOLVED=unresolved

Then you will find out at the end if there are any unresolved functions or procedures (they will be stored in the 'unresolved' variable.

Craig

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [R.Bauer](#) on Thu, 20 Nov 2008 08:51:47 GMT

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Sven Utcke schrieb:

> Hi,
>
> what's the recommended way to do dependency tracking in IDL, you know,
> FUNCTION X depends on PRO Y which calls FUNCTIONS A, B, and C. That
> stuff. Preferably, but not necessarily from emacs?
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> In C, I would for example use cscope <<http://cscope.sourceforge.net/>>.
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> get any idea at all what this is doing I would like to look at some
> sort of call graph.
>
> So what is the IDL-way of doing this?
>
> Sven

Hi Sven,

you may be interested in

http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_source/idl_html/dbase/tar_gz_dependencies_dbase.pro.html

This procedure finds all dependent routines from a given routine. They are saved into a tar.gz file. Additional information about the routines are saved into an html file.

cheers
Reimar

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Sven Utcke](#) on Thu, 20 Nov 2008 10:11:57 GMT

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Craig Markwardt <cbmarkwardt@gmail.com> writes:

> Really you want to do something like,
> RESOLVE_ALL, /CONTINUE, UNRESOLVED=unresolved

So I do. BTW, how do I tell IDL to rescan the PATH to find any routines I might have added since it last looked?

Sven

--

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| (_ | ' < \ _ \ _ \ fax : +49 40 899-4-5317 | |) | _ | _ \ \ V /
 \ _ | _ | \ _ \ _ | _ / http://www.desy.de/~utcke (to come) | _ | / | _ | _ | / | _ |

Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [Sven Utcke](#) on Thu, 20 Nov 2008 10:14:21 GMT

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Reimar Bauer <R.Bauer@fz-juelich.de> writes:

- > you may be interested in
- > http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_source/idl_html/dbase/tar_gz_dependencies_dbase.pro.html
- >
- > This procedure finds all dependent routines from a given routine. They
- > are saved into a tar.gz file Additional Informations about the routines
- > are saved into an html file.

Sorry, I'm probably a bit dense this morning: what do I need to do in order to get such a list from my sources?

Thanks

Sven

--

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Subject: Re: dependency tree / call graph in idl (cscope for idl)?

Posted by [R.Bauer](#) on Thu, 20 Nov 2008 10:21:10 GMT

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Sven Utcke schrieb:

- > Reimar Bauer <R.Bauer@fz-juelich.de> writes:
- >
- >> you may be interested in
- >> http://www.fz-juelich.de/icg/icg-1/idl_icglib/idl_source/idl_html/dbase/tar_gz_dependencies_dbase.pro.html
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>> are saved into an html file.
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> order to get such a list from my sources?
>
> Thanks
>
> Sven

doenload the program tar_gz_dependencies as sav or tgz and run it with
one of your programs

tar_gz_dependencies,'f_names'

Reimar

Subject: Re: dependency tree / call graph in idl (cscope for idl)?
Posted by [Michael Galloy](#) on Thu, 20 Nov 2008 16:55:35 GMT
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On Nov 20, 3:11 am, Sven Utcke <utcke+n...@informatik.uni-hamburg.de>
wrote:

> Craig Markwardt <cbmarkwa...@gmail.com> writes:
>> Really you want to do something like,
>> RESOLVE_ALL, /CONTINUE, UNRESOLVED=unresolved
>
> So I do. BTW, how do I tell IDL to rescan the PATH to find any
> routines I might have added since it last looked?

IDL> path_cache, /rebuild

Mike

--

www.michaelgalloy.com
Tech-X Corporation
Associate Research Scientist

Subject: Re: dependency tree / call graph in idl (cscope for idl)?
Posted by [Vince Hradil](#) on Thu, 20 Nov 2008 17:47:46 GMT
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On Nov 20, 10:55 am, "mgal...@gmail.com" <mgal...@gmail.com> wrote:
> On Nov 20, 3:11 am, Sven Utcke <utcke+n...@informatik.uni-hamburg.de>
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>
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>
> IDL> path_cache, /rebuild
>
> Mike
> --www.michaelgalloy.com
> Tech-X Corporation
> Associate Research Scientist

There's my "nugget" for the day! Thanks Mike!
