NAME

lotos.open – OPEN/CAESAR connection for the LOTOS language

SYNOPSIS

lotos.open [**-link|-include**] [*lotos_opt*] *spec*[**.lotos**] [*cc_opt*] *prog*[**.a|.c|.o**] [*prog_opt*]

DESCRIPTION

Taking as input a LOTOS specification *spec***.lotos** and an OPEN/CAESAR program *prog*[**.a|.c|.o**], **lotos.open** generates an executable program *prog*. To do so, **lotos.open** performs appropriate calls to **caesar**(LOCAL), **caesar.adt**(LOCAL), and the C compiler, avoiding recompilation whenever possible. Finally, *prog* is executed.

According to the principles of the OPEN/CAESAR architecture, *prog* is obtained by combining three different modules:

- the graph module is generated by **caesar**(LOCAL) for *spec***.lotos**
- the storage module is the standard OPEN/CAESAR library
- the exploration module is *prog*[**.a|.c|.o**]

PROCESSING OF THE GRAPH MODULE

lotos.open automatically invokes **caesar**(LOCAL) if the graph module *spec***.c** does not exist or is out of date.

lotos.open automatically invokes **caesar.adt**(LOCAL) if the abstract data type implementation *spec***.h** does not exist or is out of date. However, if *spec***.h** exists and has not been generated using **caesar.adt**(LOCAL), it will not be overwritten, even if it is out of date (in this case, a warning is issued).

lotos.open takes into account the dependencies possibly created by *spec***.c**, *spec***.h**, *spec***.t**, and *spec***.f**.

PROCESSING OF THE EXPLORATION MODULE

The exploration module *prog*[**.a|.c|.o**] is supposed to contain an OPEN/CAESAR application program, such as **exhibitor**(LOCAL), **terminator**(LOCAL), **xsimulator**(LOCAL)...

The exploration module can be supplied in three different forms. It can be either an archive file (with **.a** suffix), or a source C program (with **.c** suffix) or an object code file (with **.o** suffix).

If *prog***.a** is not present in the current directory, **lotos.open** attempts to fetch it in the OPEN/CAESAR binary library **$CADP/bin.‘arch‘.**

If *prog***.c** is not present in the current directory, **lotos.open** attempts to fetch it in the OPEN/CAESAR source library **$CADP/src/open_caesar**.

If *prog***.o** is not present in the current directory, **lotos.open** attempts to fetch it in the OPEN/CAESAR binary library **$CADP/bin.‘arch‘**.

If no suffix (**.a**, **.c**, **.o**) is specified on the command line for the exploration module *prog*, **lotos.open** will make successive attempts to fetch this exploration module: first, as a source C program with **.c** suffix; then as an archive file with **.a** suffix; finally as an object code file with suffix **.o**.

DETERMINATION OF INCLUDE OR LINK MODE

If the exploration module is in source form, **lotos.open** examines *prog***.c** in order to determine automatically whether link mode or include mode should be used.

If the exploration module is in archive form or in object code form, only the link mode is allowed.

OPTIONS

-include

Select include mode. Not a default option.

-link

Select link mode. Default option.

The options *lotos_opt*, if any, are passed to **caesar**(LOCAL) and to **caesar.adt**(LOCAL).

The options *cc_opt*, if any, are passed to the C compiler.

The options *prog_opt* if any, are passed to *prog*.

Examples:

lotos.open *spec*.**lotos -O** *prog*.**a**
or
lotos.open *spec*.**lotos -O** *prog*.**c**
or
lotos.open *spec*.**lotos -O** *prog*.**o**
or
lotos.open -comments -gc *spec*.**lotos** *prog* **-size 1000**

EXIT STATUS

When the source is erroneous, error messages are issued. Exit status is 0 if everything is alright, 1 otherwise.

AUTHOR

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NAME

Originally, this command was named **caesar.open**; this name was changed to **lotos.open** in February 2020 for increased clarity and consistency.

OPERANDS

spec.**lotos**	LOTOS specification (input)
spec.**h**	implementation in C of data types
spec.**t**	external type C implementation
spec.**f**	external function C implementation
spec.**c**	graph module gen. by CAESAR from *spec*.**lotos**
spec.**o**	object code gen. by the C compiler. from *spec*.**c**
prog.**a**	exploration module (archive, input)
prog.**c**	exploration module (source, input)
prog.**o**	exploration module (object code, input)
prog	executable program (output)

FILES

/tmp/lotos.open.*	temporary files
$CADP/incl/caesar_graph.h	interface of the graph module
$CADP/incl/caesar_*.h	interfaces of the storage module
$CADP/bin.‘arch‘/libcaesar.a	object code of the storage module
$CADP/src/open_caesar/*.c	library of exploration modules (source)
$CADP/bin.‘arch‘/*.a	library of exploration modules (archive)

$CADP/bin.‘arch‘/*.o library of exploration modules (object code)

SEE ALSO

OPEN/CAESAR Reference Manual, **caesar**(LOCAL), **caesar.adt**(LOCAL), **lotos**(LOCAL)

Additional information is available from the CADP Web page located at http://cadp.inria.fr

Directives for installation are given in files **$CADP/INSTALLATION_*.**

Recent changes and improvements to this software are reported and commented in file **$CADP/HISTORY.**

BUGS

Please report new bugs to Hubert.Garavel@inria.fr