NAME

macro - change the macro status for a layout cell

SYNOPSIS

macro [-a*mask* | -d*mask* | -f | -s[*mask*] | -u | -t] [cell ...]

OPTIONS

-a*mask* Add the mask(s) to the list of masks which have macro status.

-d*mask* Delete the mask(s) from the list of masks which have macro status.

-f Full, can be used as shorthand to specify all masks.

-s[*mask***]** Set the macro status or only for specified mask(s).

-t Touch always the macro status file.

-u Unset the macro status.

DESCRIPTION

Macro sets or unsets or changes the macro status for one or more layout cells and prints the new status(es). If no option is specified, only the current status of the cell is printed. The status can be "macro = no" (which means that the cell has no macro status), "macro = yes" (which means that the total cell has the macro status) or "macro = yes (only for masks: ...)" which means that only a few masks of the cell have the macro status.

For new projects with xcontrol you can also use the program *xcontrol* to change the cell macro status. But also in that case you may use the *macro* program.

You can only add masks to cells which have not already full macro status. If you delete all masks, the cell macro status is unset. If you unset the macro status, then the mask list is not removed. Thus, you can set the macro status again with the current mask list. However, when there was no status before, the **-s** option default sets the full macro status. You can force the full status with the **-f** option.

If you add the touch option to your action, the macro status file is always touched, also if there are no changes in it. If you touch the macro status (file) of a cell, then its mask list is sorted again and unknown or unneeded masks are deleted.

You can use all options together. Option **-u** has precedence above option **-s** and option **-d** has precedence above the **-a** option. You can also specify a range of masks with the minus sign. Single masks must be separated from each other with the comma character. The options with a mask list can only ones be used. Note that the options -a, -d or -f don't change the macro status, but only the saved mask list.

If no cell is specified, all macro cells in the current project are listed. The program also reads the imported celllist and tries to find macro status for imported cells in the remote projects. A printed macro status for a remote cell is flagged with an '∗' sign. Cells with *device* status are flagged with a 'D' sign and cells with *library* status with a 'L' sign. But these cells are only listed if they have *Free* or *Freemasks* interfacetype.

When a layout cell is defined as a macro, during expansion (see *exp(1ICD)*), instances of the cell are always flattened. Even when a hierarchical extraction is performed. When the cell that is defined as a macro has one or more son-cells itself, the macro status of each of these son-cells determines if the instances of these cells are also flattened. It is also possible to set the macro status only for one or more masks of the cell instead of the total cell. In that case only the *Freemasks* will be expanded.

When a macro cell is also a device (see *device(1ICD)* and *putdevmod(1ICD)*), the cell will become an instance in the extracted circuit (just as in the normal case) but the layout of the cell will additionally be (partial) expanded in the father cell.

For new projects with xcontrol use the program *xcontrol* to change (or list) the cell device or library status. In that case, a device or library cell has also macro status, if the interfacetype is set to Free or Freemasks.

EXAMPLES

% macro -fs image91
% macro -sPoly-Metal2 -dActive image91

% macro
% macro image91
% macro -u image91
% macro -dVia1,Via2 image91
% macro -s image91 latch select

FILES

`NELSISPROJECT/layout/celllist`

`NELSISPROJECT/layout/impcelllist`

`NELSISPROJECT/layout/`*`cell`*`/is_macro`

LIMITATIONS

In old projects without xcontrol, the program can only change the status for local cells. The program can't create directories and does not update the celllist(s). The program lists only cells which are in the layout celllist and impcelllist. The program does not check the local celllist when updating macro status. If you specify an option, you must also specify one of more cell arguments. Unknown masks are always removed when you specify a cell argument.
Only the first 64 masks of the maskdata can be Freemasks.

SEE ALSO

device(1ICD), putdevmod(1ICD), space(1ICD), xcontrol(1ICD).