NAME

xnle - extract NLE network description out of the database

SYNOPSIS

xnle [-fhlv -n nbulk -p pbulk -C file -D name -F outfile] cell

OPTIONS

-f   Send output to a file *cell*.nle instead of to *stdout*.
With option **-h**, also a file is created for every sub-cell.

-h   Also extract hierarchy (used local sub-cells).

-l   Long nets listing (gives all net/node names).

-n *nbulk*
Use *name* for n-bulk connections (default "vss").

-p *pbulk*
Use *name* for p-bulk connections (default "vdd").

-v   Enable verbose mode.

-C *file*   Use the specified *file* as the control file.

-D *name*
Define label *name* for conditional reading of the control file.

-F *outfile*
Send output to the specified file.

DESCRIPTION

Xnle is a program to extract an NLE circuit description out of the database. Default, only a circuit description of the cell itself is extracted and no sub-cells are extracted. When using the **-h** option the program will also extract all (local) sub-cells that are not a function (see "SLS: Switch-Level Simulator User's Manual") or a device.

Whether or not a cell is a device is determined by (1) the use of the program *xcontrol(1ICD) for new projects* or *device(1ICD) for old projects* and/or *putdevmod(1ICD)* (see the manual pages of these programs), or by (2) a set of built-in device names: "res" for resistor, "cap" for capacitor, "nenh" for an n-enhancement transistor, "penh" for a p–enhancement transistor, "ndep" for an n-depletion transistor, "npn" and "pnp" for bipolar transistors and "d" for a diode.

The program *xnle* generates netlists for the COMPASS Design System. It tries to read the "spicemod" file for a *tox* value. This tox value is used for the calculation of gate-capacitances of transistors.

THE CONTROL FILE

For *xnle* a control file may be used. The default name of the control file is "xslsrc". First, the program tries to read this file from the current working directory. Next, it tries to open the control file in the process directory. Note, the control file may also be used for other programs.

The parameter *name_ground* may be used to define the ground node name.

   name_ground *string*

The following specification is useful with the **-i** option:

   exclude_project *path_name*

to exclude specific certain imported projects from the net-listing (see the **-X** option).

CONTROL FILE CONDITIONALS

It is possible to use "#if", "#else" and "#endif" statements, to make the reading of the control file depended of the invoking program. To be seen, the '#' character must be the first character on a line. This

conditional statements may not be nested like the C-preprocessor. Normally, from the top of the file reading is set to true. A "#else" statement changes the state from true to false or false to true. A "#endif" statement changes the state always to true. A "#if" statement changes only the state to true if one of the specified conditions is true for the invoking program (else to false). Note that you can also define one condition on the command line with the **-D** option.

The following condition is true for *xnle*:

> #if NLE

EXAMPLES

> % xnle -h latch

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FILES

> *cell*`.nle`   (output file, when option **-f** is used)
>
> `xslsrc`   (default control file for xnle/xsls/...)
>
> `spicemod`   (models file for xnle/xspice/...)
>
> `global_nets` (file with global net node names)

SEE ALSO

> cspice(1ICD), putdevmod(1ICD), space(1ICD), xcontrol(1ICD), xsls(1ICD), xspice(1ICD).