

Extracted parasitic simulation using Calibre

The most successful and reliable method for simulating extracted parasitics is to use a *spectre* netlist. Unfortunately, this is not easy to set up.

Calibre produces a *spectre* netlist plus two other files (if RC extraction is used, only one other file, however, if C-extraction only is used) containing the parasitics.

In the following example (RC extraction) the extracted cell is called *comp*, so the netlist is:

comp.pex.netlist

which includes two files

comp.pex.netlist.COMP.pxi

and

comp.pex.netlist.pex

Each of them calls the next one via an *Include* statement.

Examining *comp.pex.netlist* shows that the netlist defines a subcircuit
subckt comp (AVDD GND COMP_OUT CONV DAC_OUT HOLD IBIAS ONCOMP RAZ)

This line in the netlist will be needed later.

The next step is to create a *spectre* view which is achieved by copying the *symbol* view from within the library manager to a *spectre* view.

Next, in the *icfb* window use the *Tools/CDF/Edit* menu to edit the cell's CDF.

The CDF type should be set to *Base* and then browse to find the appropriate cell.

In the component parameters section, click *Add* to open the dialogue box shown in *Figure 1* and set *name* = *model*, *prompt* = *model* and *defValue* = *comp* (the name of the subcircuit defined in *comp.pex.netlist*), then click *OK*.

In the simulation information section, you may need to add the pin list in the box next to *spectre*, this can be copied from the subcircuit. The completed form should look something like *Figure 2*. Now, within *ADE* add the netlist to the model setup, but beware.... the case tends to be wrong between the netlist and the model files as provided by the foundry! If when you try to simulate there are numerous models that cannot be found, this may be the problem and you must edit the netlist to change to appropriate case.

Doesn't work with a *patchCord* in the schematic (use *vdc=0* instead).

In the simulator options, beware to use the appropriate *scale* parameter.

Good luck!

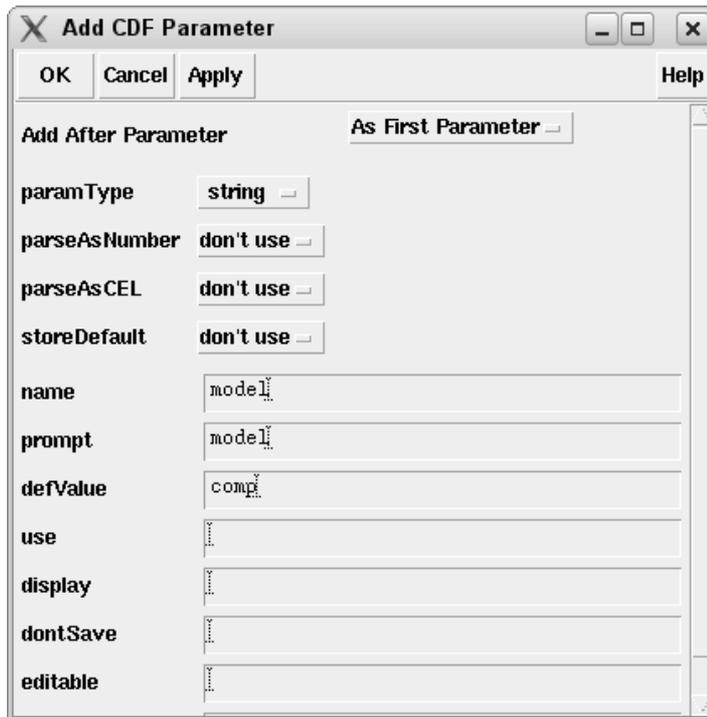


Figure 1: Add CDF Parameter

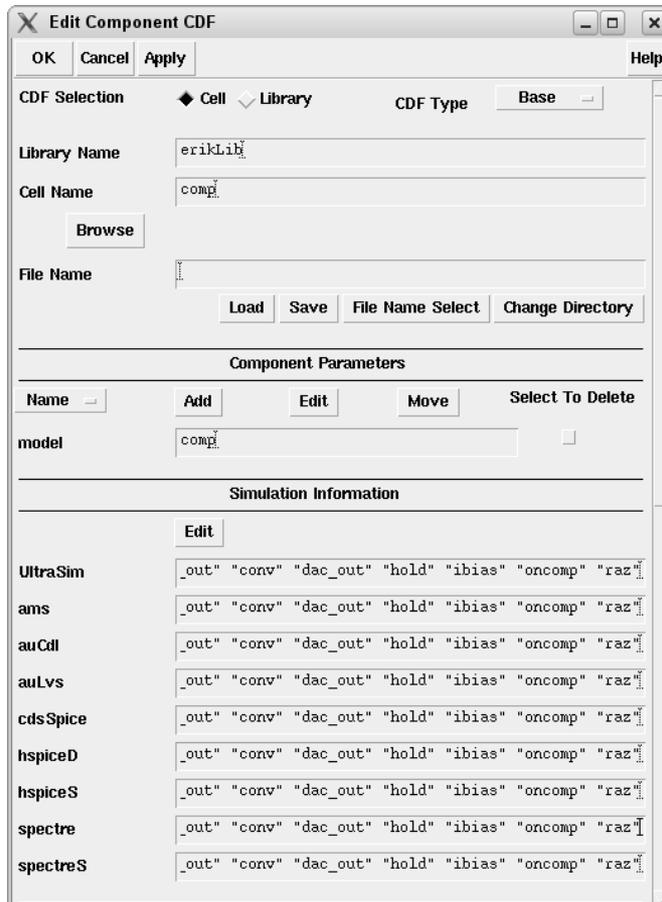


Figure 2: Edit Component CDF