MK_SDF

Mk_sdf is a perl script used of generating a SDF annotation file with all the component delays needed for timing accurate simulation. It reads the design's VHDL netlist or testbench (NOTE: it does not work with bare models). It uses the configuration statements, such as,

```
for all : CDC339 use entity CLOCK.cdc339(VHDL_BEHAVIORAL);
```

to determine which library to search for the timing file for each model. It also reads the Timing-Model generic for each instantiation,

```
TIMINGMODEL => "CDC339DB"
```

and uses the value it finds to search the timing file for the correct section. Here "CDC339DB" is the real part number and is listed in the timing file cdc339.ftm. The timing file may contain timings for many parts. The timing you want to use is specified by the TIMINGMODEL generic.

The instance names in the netlist,

```
I3P_S4 : CDC339
```

are extracted for use in the SDF file.

There is also a configuration file called mk_sdf.cmd that provides the tool with information about its environment. The mk_sdf script is invoked with the command:

```
mk_sdf [netlist_name] [sdf_file_name]
```

The mk_sdf.cmd file contains a number of set directives. Here are the commands available in version 2.0, the first perl version. Directives may be in any order. Except for one, they have no defaults.

```
SET sdffile_suffix <.suffix>
```

The SDF file produced will have the same name as the VHDL file read except the suffix will be changed to whatever you specify in this command. Alternatively, the name of the SDF file may be entered as the second argument on the command line.

```
SET use_global_timing_dir <true | false>
```

Timing files may be distributed among the CAE symbol libraries or they may all be kept in a single directory. If they are distributed it is assumed they are in a directory structure parallel to the compiled models. This directive may be set to true or false.

```
SET timingfile_dir <directory_name>
```

The timing files will be kept in one or more directories. This directive gives the name of the directory(ies).

```
SET vendor <modeltech | cadence>
```

If use_global_timing_dir is false, mk_sdf will try to find the paths of the libraries. If vendor is set to modeltech, it will try to read the global and local modelsim.ini files. If vendor is set to

cadence, it will try to read the global and local cds.lib files. Modeltech and Cadence are the only supported vendors in version 2.0. FMF is willing to work with users and/or CAE vendors to broaden our support.

```
SET vhdl_file <file_name>
```

The vhdl_file is the name of the netlist. It may also be entered as the first argument on the command line.

```
SET diagnostics <on | off>
```

Diagnostics may be set "on" or "off". The default is off. If set on, the program will write voluminous messages informing you in detail of its progress. This should be useful in debugging problems in the environment or with unexpected formatting in netlists. If even more detail is required in diagnosing problems, use the "-d" option on the first line on the program.

Known Limitations

Version 2.0.3 and below do not work correctly with hierarchical netlists generated by Mentor's Design Architect. Version 2.0.3 does work with flat netlists from DA.