9 Glossary

automorph class

A class with an even number of four or more members, half from each netlist, in which there is insufficient information to further resolve the class. The members may be identical, but additional information (such as parameters) may be necessary to differentiate the members.

batch file

A text file containing one or more command-line invocations of LVS and appropriate setup information—input files and verification options—for each verification run.

class

A set of elements or nodes with something in common, such as topological or parametric characteristics. Types of classes include automorph, fragmented, and permuted.

detailed trial matching

A process used by LVS to try to resolve automorph classes. LVS assigns a matching pair of members and continues the iteration process from that match.

element

Any type of logic or circuit component (transistor, resistor, or capacitor).

element description file

A text file that describes specialized or custom elements which are used in the design but not recognized by LVS.

fragmented class

A class with a different number of members from each netlist. This type of class is usually the result of one or more design errors.

netlist

A textual description of the connectivity of a design.

node

An electrical connection between one or more ports, labels, or wires.

node and element list

A text file that contains lists of all the matching and unresolved nodes and elements in the two netlists being compared. The lists are broken down by each LVS iteration.

parameters

Information in a netlist about each element and node in addition to topological characteristics. For example, node capacitance and element size.

parameter matching

The process of using parameters in addition to topological characteristics to differentiate members of a class.

permuted class

A class containing series chain MOSFETs whose terminals are functionally equivalent, but in a different order, in the designs being compared. Occurs in digital designs during the optional replacement of series chain MOSFETs with equivalent components.

prematch file

A user-supplied text file that lists the equivalent members of an automorph class.

resolution

Classes are *resolved* when their members are matched (through detailed trial matching or another process). Occurs when the members of a netlist are equivalently matched to the members of the other netlist.

SPICE

A netlist format commonly used for circuit simulation or comparison.

slew rate

The maximum percentage by which two parameter values may differ and still compare as equal.

topological characteristics

Information in a netlist regarding element type and connectivities of each element and node.

topological matching

The default LVS iteration process that uses topological characteristics to match elements and nodes.

verbosity level

The amount of information displayed in the verification window during a verification run.

verification queue

A dialog that contains a list of consecutive verification runs.

verification run

The set of iterations LVS executes to compare netlists.

verification setup

Information required for an LVS verification run, including input and output files and verification options. The information is entered in the setup dialogs and can be saved in a verification database file.