set_max_capacitance

NAME

set_max_capacitance

Sets the **max_capacitance** attribute to a specified value on the specified clocks, ports and designs.

SYNTAX

```
int set_max_capacitance
    capacitance_value
    [-data_path]
    [-clock_path]
    object_list
```

ARGUMENTS

capacitance_value

Specifies a value to which the **max_capacitance** attribute is to be set. *capacitance_value* must be expressed in units consistent with the technology library used during optimization. For example, if the library specifies capacitance values in picofarads, then *capacitance_value* must also be expressed in picofarads.

-data_path

Restricts the scope of the command to only the pins that are in datapaths launched by the clocks specified in the *object_list*. This option is valid only when the specified object is a clock.

-clock_path

Restricts the scope of the command to only the pins that are in clock paths of the clocks specified in the *object_list*. This option is valid only when the specified object is a clock.

object_list

Specifies a list of names of specified clocks, ports, or designs on which the **max_capacitance** attribute is to be set.

DESCRIPTION

The command sets the **max_capacitance** attribute to a specified value on the specified clocks, ports or designs. Tool attempts to ensure that the capacitance value for a net is less than the specified value. The maximum capacitance value for a net is defined as the least of the maximum capacitance values of the cell pins and design ports on that net.

In cases where both a global maximum capacitance value is set on a design and a local value is set on a port, tool attempts to meet the smaller (more restrictive) value.

If **max_capacitance** attributes are already specified in a technology library (implicit constraints), tool automatically tries to meet them.

By default, a clock, port or design has no **max_capacitance** constraint. You can't set a **max_capacitance** attribute on an output or bidirectional port.

The maximum capacitance constraint is a design rule constraint, which has higher priority over optimization constraints. Thus, the tool gives priority to maximum capacitance constraint, even if it adversely affects optimization constraints on a design. The **max_delay** and **max_area** are optimization constraints, whereas **max_capacitance**, **max_fanout** and **max_transition** are design rule constraints. Design rule constraints reflect those technology-specific restrictions that must be met for a design to function correctly. Optimization constraints reflect goals and restrictions that are desirable, but not crucial for the operation of a design. The tool attempts to meet all constraints placed on a design, but gives priority to design rule constraints during optimization.

When you specify a clock object with the **set_max_capacitance** command, by default, the constraint applies to all pins in the datapaths launched by the clock and to all pins in the clock network. To restrict the scope of the command to either datapaths or clock paths, use the **-data_path** or **-clock_path** option.

To get information about optimization and design rule constraints, use **report_constraint**; to get information on the current port settings, use **report_port**. To remove the **max_capacitance** attribute from a port or a design, use **remove_attribute**.

Multicorner-Multimode Support

This command applies to the current scenario only.

EXAMPLES

The following example sets a maximum capacitance value of 2.0 units on the port named late_riser:

```
prompt> set_max_capacitance 2.0 [get_ports late_riser]
```

The following example specifies a maximum capacitance value of 2.0 units for the TEST design:

```
prompt> set_max_capacitance 2.0 [current_design]
```

The following example specifies a maximum capacitance value of 2.0 for the clock paths of clk1 and the datapaths launched by clk1:

```
prompt> set_max_capacitance 2.0 [get_clocks clk1]
```

The following example specifies a maximum capacitance value of 2.0 for the datapaths launched by clk1:

```
prompt> set_max_capacitance 2.0 -data_path [get_clocks clk1]
```

The following example shows the -data_path and -clock_path options are invalid when the object is not a clock:

```
prompt> set_max_capacitance 2.0 -data_path [get_port port1]
Error: Cannot specify -data_path/-clock_path without clock object. (CMD-003)
prompt> set_max_capacitance 2.0 -clock_path [current_design]
Error: Cannot specify -data_path/-clock_path without clock object. (CMD-003)
```

SEE ALSO

all_inputs(2)
all_outputs(2)
characterize(2)
remove_attribute(2)
report_constraint(2)
report_port(2)
reset_design(2)
set_min_capacitance(2)