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icc2_shell> man fix_floorplan_rules
2.  Synopsys Commands                                    Command Reference
                        fix_floorplan_rules

NAME
        fix_floorplan_rules
                Moves  macros  or  create  routing  or placement blockages to fix
                violations of related floorplan  spacing,  enclosure,  location,
                length, halo, area and width rules, and optionally, output a Tcl
                file to record the changes.

SYNTAX
        collection fix_floorplan_rules
                [-include include_list]
                [-exclude exclude_list]
                [-file file_name]
                [-prefix blockage_prefix]
                [-objects macros]
                [-bbox bounding_box]
                [rule_name_list]

    Data Types
        include_list           list
        exclude_list           list
        file_name              string
        blockage_prefix        string
        macros                 list
        bounding_box           rectangle
        rule_name_list         list

ARGUMENTS
        -include include_list
                Specifies the types of  fixing  operations  to  include  in  the
                process.  This  option  cannot  be  specified  together with  the
                -exclude option.  If neither this nor -exclude option is  speci-
                fied, all types are included by default.

                The supported types are:

                o hard_macro
                    fix  violations  by  moving  hard  macros; used for macro to
                    macro spacing/length  rule  violations,  block  boundary  to
                    macro enclosure/location rule violations, and shape to shape
                    length rule violations, where the shapes  are  in  different
                    macros

                o soft_macro
                    fix  violations  by  moving  soft  macros; used for macro to
                    macro spacing/length rule violations and block  boundary  to
                    macro enclosure/location rule violations

                o cover_bump
                    fix  violations by moving cover bumps; used for two kinds of
                    enclosure rules: layer shape to bump and block  boundary  to
                    bump.

                o std_cell_area
                    fix  violations by adding hard placement blockages; used for
                    macro  to  std_cell_area  spacing/length  rule   violations,
                    std_cell_area  to  std_cell_area  spacing  rule   violations,
                    block boundary to std_cell_area enclosure/location rule vio-
                    lations,  std_cell_area  width and area rule violations, and
                    std_cell_area poly rule violations

                o boundary_cell_region
                    fix violations by adding hard placement  blockages;  similar
                    use  as  std_cell_area, but considering voltage area regions
                    instead of overall standard cell area.
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 70                        o core_area
 71                             fix violations by adjusting core area;  used  for  core_area
 72                             width rule violations and block_boundary to core_area enclo-
 73                             sure rule violations
 74
 75                        o block_boundary
 76                             fix  violations  by  adjusting  block  boundary;  used   for
 77                             block_boundary  width  rule violations and block_boundary to
 78                             core_area enclosure rule violations
 79
 80                        o va_boundary
 81                             fix violations by adjusting voltage  area  boundaries;  used
 82                             for core_area to va_boundary enclosure rule violations
 83
 84                        o macro_keepout
 85                             fix  violations by deriving  hard keepout margins on macros;
 86                             used for macro and std_cell_area spacing and halo rule  vio-
 87                             lations
 88
 89                        o routing_blockage
 90                             fix  violations  by adding routing blockages; used for macro
 91                             and routing blockage enclosure/halo rule violations
 92
 93           -exclude exclude_list
 94                   Specifies the types of fixing operations  to  exclude  from  the
 95                   process.  This  option  cannot  be  specified  with the -include
 96                   option.  If this option is specified, the command  performs  all
 97                   types   of   operations,  except  the  types  specified  in  the
 98                   exclude_list.  The  allowed  types  are  the  same  as  for  the
 99                   -include option.
100
101           -file file_name
102                   Name  of Tcl script to record changes. If it is not provided, no
103                   Tcl script will be output.
104
105           -prefix blockage_prefix
106                   Name of prefix that is automatically added to blockages.
107
108           -objects macros
109                   List of macro instances for which violations are fixed. If  pro-
110                   vided,  only the violations that are related to specified macros
111                   are fixed. Mutually exclusive with -bbox.
112
113           -bbox bounding_box
114                   Bounding box of macros to consider  for  fixing  violations.  If
115                   provided, only macros that are completely covered by the box are
116                   selected and  only  the  violations  that  are  related  to  the
117                   selected macros are fixed. Mutually exclusive with -objects.
118
119           rule_name_list
120                   Specifies the list of floorplan rule names to fix related viola-
121                   tions.  By default, the tool fixes all floorplan  rules  set  by
122                   you.
123
124   DESCRIPTION
125         After  the  floorplan rule checker is done, use this command to fix the
126         following violations:
127
128         o Adjust core area and block boundary to  mitigate  block  boundary  to
129           core  area  enclosure rule violations and core area width rule viola-
130           tions.
131
132         o Adjust voltage area boundary to mitigate core area  to  voltage  area
133           boundary enclosure rule violations.
134
135         o  Derive  the  macros' hard  keepout  margin  to satisfy the macro to
136           std_cell_area spacing/halo rule.
137
138         o Move hard and/or soft macros to satisfy all grid-type  spacing/length
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139                   rules, and enclosure/location rules from the block boundary.
140
141             o Create routing blockages after macro placement to satisfy all routing
142               blockage to hard macro enclosure and halo rules.
143
144             o Create placement blockages after macro placement to make the standard
145               cell  area  satisfy  all  width  rules, poly rules, area rules, spac-
146               ing/length rules to hard macro, enclosure rules from the block bound-
147               ary and spacing rules to standard cell area.
148
149          Note: -include/-exclude options specify the types of violations to fix.
150
151          If  none  of them are specified, the tool behaves as though all of them
152          have been specified.
153
154    EXAMPLES
155          The following commands fix  violations  of  floorplan  rule_1  on  hard
156          macros to the block boundary.
157            prompt> set_floorplan_spacing_rule -name rule_1 \
158               -from_object_types hard_macro -to_object_types block_boundary -min 10
159            prompt> fix_floorplan_rules -include hard_macro  -bbox {{10 10} {100 100}}
160            prompt> fix_floorplan_rules -objects [get_selection] -file fixer.tcl
161
162          The following commands fix violations of floorplan rule_2 on core boundary.
163            prompt> set_floorplan_width_rules -name rule_2 \
164               -object_types core_area -offset .4 -step .8
165            prompt> fix_floorplan_rules -include {core_area block_boundary}
166
167          The following commands fix violation of floorplan rule_3 on std cell area.
168            prompt> set_floorplan_width_rule -name rule_3 \
169               -object_types std_cell_area -min .3
170            prompt> fix_floorplan_rules -exclude {hard_macro soft_macro} -prefix "auto_blk"
171
172          The following command fixes violations related to all rules that may be specified:
173            prompt> fix_floorplan_rules
174
175    SEE ALSO
176          set_floorplan_spacing_rules(2)
177          set_floorplan_enclosure_rules(2)
178          set_floorplan_halo_rules(2)
179          set_floorplan_width_rules(2)
180          set_floorplan_area_rules(2)
181          set_floorplan_length_rules(2)
182          set_floorplan_location_rules(2)
183          remove_floorplan_rules(2)
184          report_floorplan_rules(2)
185
186                         Version S-2021.06-SP5
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189
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