RainaSynth

User Guide

Version T-Release-2025-06-12

PERSONAL RESUME

Raina®

Welcome to RainaSynth-UserGuide!

一、关于 raina.tech

raina 由多位国际知名资深EDA专家领头成立。 公司在硅谷、上海、杭州、绍兴、义乌等。其汇集了一批海内外的EDA、硅库 和人工智能等领域的领军人才，包括全球领先的EDA软件公司（Synopsys、Cadence、Magma，ARM等）的核心技术人员、斯 坦福大学教授、中科院院士、以及历史上最快IPO的EDA公司的关键人物，平均从业年限20年以上，同时具备智能制造的 专家知识和经验。作为 EDA 行业技术领军者，raina 致力于开发基于统一数据模型的数字芯片设计全流程 EDA 软件，用 最有效的途径实现EDA国产化，解决中国芯片产业软件卡脖子问题。

二、关于 RainaSynth

1. 什么是 RainaSynth 简介

RainaSynth 是 raina 推出的第一款综合工具，RainaSynth在逻辑综合过程中利用后端物理实现信息，使得对延时与 功耗的预估结果更加准确。并通过将布局结果交付给布局布线工具，使后端有一个更好布局的优化起点，增强前后端耦 合度(correlation)。RainaSynth通过前后端融合的统一数据模型，连接前端逻辑设计和后端物理设计，减少迭代， 加速设计收敛，重新定义PPA优化边界。为客户带来“所见即所得”的综合优化体验，让芯片设计告别逻辑与物理的割裂时代。

RainaSynth 凭借高效的算法和优化策略，在运行时间上也具有一定优势。在大规模复杂芯片设计项目中，这种时间优势会 随着设计规模的增大而不断放大，从而大大缩短芯片设计周期，让产品能够更快地推向市场。

RainaSynth 在时序性能优化、芯片面积控制以及运行效率等多个关键维度都展现出了卓越的性能。这不仅是技术上的突 破，更是我们团队凝聚力的体现。我们的工程师们不仅拥有深厚的理论知识和丰富的实践经验，更有着对芯片设计领域的 无限热情和执着追求，这种凝聚力是我们不断前进的动力源泉。

RainaSynth 凭借其卓越的逻辑综合能力，能够精准地完成复杂的芯片设计任务，为芯片设计工程师提供更强大的支持。 无论是从技术性能还是用户体验来看，RainaSynth 都是广大芯片设计工程师手中的一把利剑。它能够助力他们在激烈的 市场竞争中脱颖而出，设计出性能更强、功耗更低、上市速度更快的芯片产品。我们相信，RainaSynth 的出现将为芯片 设计行业带来新的变革力量，推动整个行业朝着更高性能、更高效的方向迈进。

2. 核心差异化价值

1. 物理信息驱动综合，终结迭代死循环。

- 实时物理建模引擎：在逻辑综合阶段无缝集成后端布局、布线、寄生参数信息。
- PPA 预测精度大幅提升：避免传统流程中“综合->布局布线->重新综合”的反复迭代，将时序/功耗/性能压榨到极致。

2. 超线性并行架构，释放算力极限

- 分布式多核加速技术：支持千核级任务调度，实现近线性扩展比
- 典型设计综合周期缩短 3-8 倍，千万门级设计综合耗时从数天降至小时级
- 云就绪架构，支持混合云部署，弹性调配算力资源

3. 四维优化空间探索

- 优化维度 技术实现
- 纵向多层次 RTL->Gate->Floorplan协同优化
- 横向多目标 PPA多权重动态平衡算法
- 动态时序路径 关键路径智能聚类与分级优化
- AI探索空 深度学习驱动设计空间搜索

4. 智能优化决策引擎

- 强化学习+元启发式算法：自主探索数万种优化策略组合，发现人工难以企及的 PPA 帕累托前沿
- 自进化策略库：项目经验自动沉淀为优化知识图谱

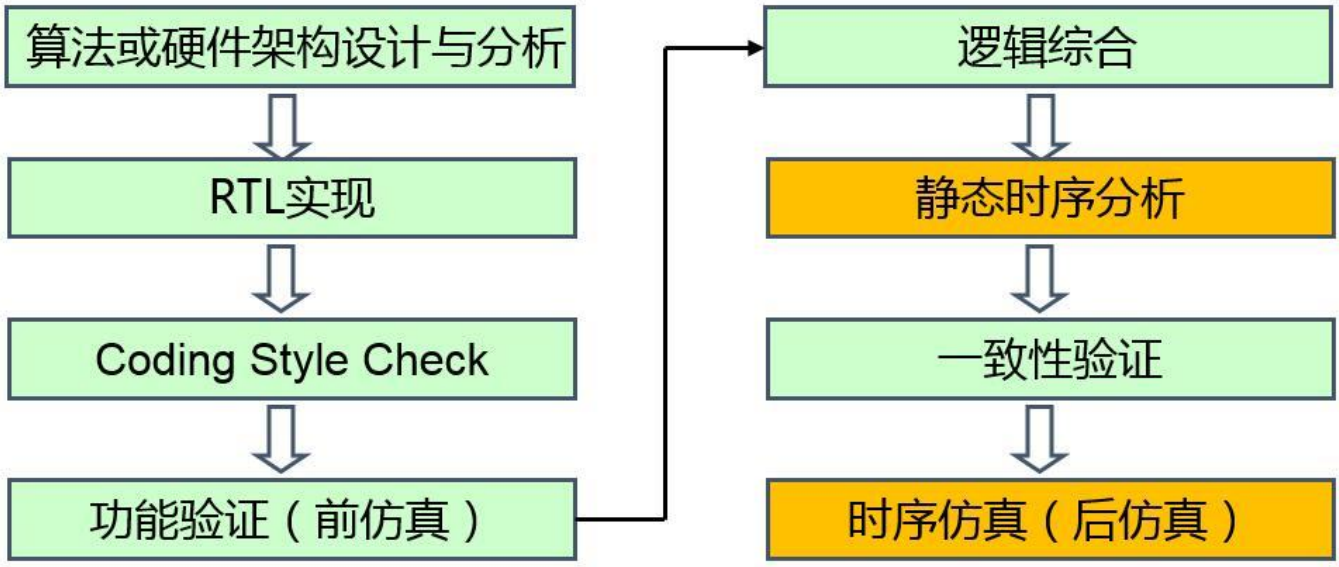
3. 无缝融入设计生态

- 零摩擦迁移：完整兼容行业标准SDC约束、工艺库与IP模型
- 双模交互体验：
  - 沉浸式GUI看板：实时可视化PPA帕累托曲线、优化热点追踪、瓶颈路径3D渲染
  - 工业级TCL环境：保留工程师熟悉的命令行控制，支持自动化脚本流

一、芯片设计流程

芯片设计是指将特定电子系统功能转化为物理集成电路（IC）的全过程，本质是在多维度约束下实现硬件功能的工程化 映射，并使得 design 在芯片面积（Area）、功耗（Power）、性能（Performance）构成的PPA三角中寻找最优解， 同时满足制造工艺要求。

一个典型的设计流程如下：



其中一些常规流程的作用如下：

- RTL设计：硬件工程师用Verilog/VHDL编写寄存器传输级代码，定义电路功能
- 逻辑综合：将RTL转换为工艺库相关的门级网表，施加SDC时序/功耗约束
- DFT插入：集成扫描链（Scan Chain）、MBIST存储器自测等可测试性结构
- 物理实现：
    - 布局规划（Floorplan）：规划芯片模块位置与I/O
    - 时钟树综合（CTS）：构建低偏斜时钟网络
    - 布线（Routing）：完成信号线与电源网络金属互连
- Sign-off验证：
    - LVS/DRC：版图与原理图一致性检查及设计规则验证
    - STA：多工艺角（PVT）下时序签核
    - IR Drop：电源完整性分析

一、规格定义阶段（Specification Definition）

芯片设计流程的第一步是定义芯片的需求与规格。这包括确定产品的功能、使用方式，以及需要满足的性能指标。一旦这些需求被明确定义，它们就可以作为输入用于架构设计与芯片布局规划。

在明确需求之后，下一步是设计能够满足这些要求的系统架构，同时还需考虑成本、功耗等因素。在芯片设计的初期阶段，设计者需要就架构做出关键决策，例如在 RISC（精简指令集计算机）与 CISC（复杂指令集计算机）之间做出选择，确定所需的算术逻辑单元（ALU）的数量，决定流水线的结构与数量，选择缓存的大小等等。这些决策构成了整个设计流程的基础，因此设计人员必须对每一方面进行仔细评估，充分考虑其对芯片整体效率与性能的影响。这些选择均应基于芯片的目标用途与事先定义的技术规格，最终目标是打造一个高效、性能强且低功耗、低成本的设计。

规格定义一般从如下两个方面考虑：

- **1. 系统需求分析**
    - 明确芯片功能、性能（功耗、频率、面积）、成本、制造工艺节点（如 TSMC 7nm、SMIC 14nm 等）
    - 应用场景定义（如智能手机、自动驾驶、AI 加速、物联网等）
- **2. 架构设计（Architecture Design）**
    - 确定 CPU/GPU/AI加速器/ISP 等 IP 模块的配置
    - 确定总线架构（如 AXI、AHB）、缓存层级（L1/L2/L3）
    - 功耗预算（Power Budget）、时钟频率（Clock Tree Planning）
    - 通信接口（PCIe、USB、DDR、MIPI 等）
    - 安全性与可测试性（Secure Boot, DFT）需求

在完成架构设计阶段后，设计者会制定一份微架构规格文档（MAS，Micro-Architectural Specification），这是对芯片架构的书面描述。该规格文档使设计人员能够准确预测设计的性能表现、功耗以及芯片尺寸（Die Size）。通过制定全面的 MAS，可以确保芯片设计符合在初期定义阶段设定的需求和规格。MAS 的详尽程度至关重要，它有助于避免后期出现设计错误，并确保芯片在性能标准与时间进度方面的达成。这一阶段可能还涉及在不同类型的处理器或 FPGA 之间进行选择。

二、前端设计阶段（Front-End Design）

在完成微架构规格（MAS）之后，下一步是功能设计阶段。在此阶段，设计者会使用硬件描述语言（HDL），如 Verilog 或 VHDL，对芯片的各个模块进行编码。这些模块可能包括算术逻辑单元（ALU）、寄存器堆、控制逻辑、总线接口、缓存控制器等。每个模块都应符合架构和微架构阶段所定义的行为和接口规范。

设计者通常会采用模块化开发方式，使得系统更易于调试、验证和后续集成。在这个阶段，设计团队还需要确保各模块之间的接口逻辑清晰、信号定义一致，同时考虑功耗管理、时钟域划分和复位策略等关键设计因素。

功能设计的核心目标是确保 RTL 级别（寄存器传输级）实现符合架构定义的行为规范，为后续的验证与逻辑综合打下基础。完成 RTL 编码后，设计人员需要验证其功能是否正确。这一阶段至关重要，通常被认为是整个芯片设计周期中最耗时的部分之一。

- **1. 功能设计（RTL Design）**
    - 使用 HDL（Verilog/VHDL/SystemVerilog）编写模块级功能描述
    - 多采用模块化设计，如 ALU、控制器、FIFO、DMA、Cache 等
    - 软件与硬件协同设计（HW/SW Co-Design）
- **2. 功能仿真（Functional Simulation）**
    - 使用 ModelSim、VCS、NC-Sim 等工具
    - 编写 Testbench 验证模块功能
    - 支持通用仿真环境（如 UVM）
- **3. 形式验证（Formal Verification）**

    - 检查 RTL 设计的等价性、死锁、覆盖率等
    - 使用工具：JasperGold、Formality 等

- **4. 逻辑综合（Logic Synthesis）**
    - 使用 Synopsys Design Compiler、Cadence Genus 等工具
    - 将 RTL 代码转换为门级网表（Gate-level Netlist）
    - 目标库为标准单元库（Standard Cell Library）
    - 进行约束设定（.sdc）如时钟约束、IO 时序、功耗控制

- **5. 静态时序分析（Static Timing Analysis, STA）**
    - 使用 PrimeTime 等工具对网表进行时序分析
    - 包括 Setup/Hold violations、路径延迟等

- **6. DFT 设计（Design for Testability）**
    - 插入 Scan Chain、BIST（内建自测）、JTAG、ATPG（自动测试向量生成）

三、后端设计阶段（Back-End Design / Physical Design）

在逻辑设计完成后，设计流程进入后端设计阶段，也称为物理设计（Physical Design）。该阶段的目标是将门级网表转化为实际的物理布局，并考虑信号、电源、时钟、面积等物理因素。芯片设计流程中的“后端设计”是将前端生成的 RTL（寄存器传输级）或门级网表，转换为可制造的物理版图（Layout）的全过程。它涉及一系列精密的步骤，最终目标是生成符合工艺规范的 GDSII 文件，用于流片生产。

主要步骤包括：

- **1. Floorplanning（芯片平面规划）**
    - 决定宏单元（如 SRAM、PLL、IO）的位置；
    - 划分芯片核心区域与 IO 区域；
    - 规划电源网络（Power Planning）；
    - 为时钟树、信号线和电源预留通道。

- **2. Placement（单元放置）**
    - 将综合得到的标准单元逻辑门放置在芯片布局中；
    - 避免拥塞、提升局部连线效率。

- **3. 时钟树综合（Clock Tree Synthesis，CTS）**
    - 构建低偏斜、高容错的时钟树结构；
    - 确保所有触发器获得稳定的时钟信号，减少时钟偏移（Clock Skew）。

- **4. Routing（布线）**
    - 完成所有信号线、电源线、时钟线的连通；
    - 使用多层金属布线（通常 5 ~ 15 层）；

    - 进行信号完整性（SI）、串扰（Crosstalk）检查。

- **5. 时序收敛（Timing Closure）**
    - 修复时序违规路径（违反 setup/hold）；
    - 插入缓冲器、调整驱动强度、优化连线；
    - 使用 ECO（Engineering Change Order）进行小范围逻辑修改。
    - 物理验证（Physical Verification）
    - 完成布局布线之后，必须执行一系列物理验证步骤，确保设计满足制造工艺规则：

- **6. DRC（设计规则检查）**
    - 确保线宽、间距、孔径、金属层等符合晶圆厂设计规则；

- **7. LVS（电路图与版图一致性检查）**
    - 检查物理版图是否与逻辑网表完全一致；

- **8. ERC（电气规则检查）**
    - 检查非法连接、电压冲突、悬空节点等问题。

- **9. IR Drop / EM 检查**
    - 模拟电源网络的压降（IR Drop）与电迁移（Electromigration）；

四、签核与流片（Signoff and Tape-Out）

当芯片完成所有设计与验证流程后，进入最终“签核”阶段（Signoff），即准备将设计数据交付给晶圆厂制造：

签核内容包括：

- 完整版图文件（GDSII / OASIS）；
- 标准单元库文件（LIB、LEF）；
- 工艺文件、时钟、时序与功耗报告；
- 形式验证报告、仿真波形、功能验证文档。

随后, 设计团队将芯片数据交给代工厂（如 TSMC、SMIC）进行制造,代工厂根据 GDSII 文件制作掩膜版（Photomask）并开展晶圆制造。

五、制造、封装与测试（Fabrication, Packaging, and Testing）

- **1. 晶圆制造（Wafer Fabrication）**
    - 在洁净室中进行光刻、扩散、刻蚀、离子注入等工艺；
    - 形成多个芯片的晶圆（Die）。

- **2. 切割与封装（Dicing & Packaging）**

    - 将晶圆切割成独立芯片；
    - 封装成不同封装形式：BGA、WLCSP、QFN、Flip-Chip；
    - 加装金属引脚、热封装、连接基板。

- **3. 测试（Testing）**

    - 晶圆测试（Wafer Sort）：使用探针卡检测裸片功能；
    - 封装测试（Final Test）：全面测试芯片功能、性能、电压、电流等；
    - 使用自动测试设备（ATE）进行量产级测试；
    - 筛选出良品，统计良率。

二、RainaSynth 使用示例

一个典型的综合流程图如下:

可以看到，一个 design 的综合可能需要数个文件如：tcl 文件、sdc 文件等等。

如下是一个简单的使用示例，RainaSynth 将 demo.v 模块进行逻辑综合，并使用 nangate45 工艺库进行 techmap， 设置约束后输出对应的 ppa 报告。

1. 数据准备

在使用 RainaSynth 之前，用户至少需要准备如下数据：

- 逻辑库（.lib / Liberty Format）：存放标准单元（Standard Cells）、I/O、存储器（SRAM/ROM）的时序信息（延迟/建立保持时间）、功耗模型（内部/开关/漏电功耗）、多工艺角（Multi-Corner）数据：TT（Typical）, FF（Fast-Fast）, SS（Slow-Slow）等
- 约束文件（.sdc）：约束
- 流程脚本（.tcl）：指示了本次综合流程的执行过程

2. 执行流程脚本

在安装了 RainaSynth 的服务器中，键入如下指令执行流程：

```
# 使用脚本执行综合流程
RainaSynth -f run.tcl
```

或者在交互式解释器中将 run.tcl 的指令逐条输入执行:

```
# 进入 tcl 交互式页面
[user@edacoder85 my_project]$ RainaSynth

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        This software and the associated documentation are proprietary to Raina, Inc

RainaSynth>> help
COMMON:
```

```
    add_to_collection      # Add object(s) to a collection. Result is new collection
    exit                   # Exit the programe
    get_app_var            # Get an app_var, you can view raina function configuration, the __al
    get_attribute          # Get attribute values
    get_object_name        # get full_name of an object
    getenv                 # Get the value of a system environment variable
    help                   # List the help information
    list_libs              # List libraries that are currently available in memory
    log_begin              # Specify the file to save output log
    log_end                # Close the input file redirected by the log_begin directive and char
    log_output             # Redirect log output to a file
    optimize               # Optimize netlist timing and physical information. Default Timing op
    output_libs_info       # Output all libertys info for check inside in regression case
    query_objects          # Display objects in collections in order
    quit                   # Exit the programe

    ...
```

3. 查看输出结果

本次示例的 tcl 文件如下:

```
#set_app_var enable_clock_gating false
read_liberty /share1/silibraries/nangate45/lib/NangateOpenCellLibrary_typical.lib
set path ../../src
foreach v [glob -nocomplain -directory $path *.v] {
    analyze $v
}
elaborate gcd
synth -top gcd
write_file -netlist log/synth.v

read_sdc ../constraint.sdc

netlist_opt
write_file -netlist log/opt.v

report_power > log/power.rpt
report_timing > log/timing.rpt
report_area > log/area.rpt
report_qor > log/qor.rpt
exit
```

本次示例的 sdc 文件如下:

```
set clk_name clk
set clk_port_name clk
set clk_period 0.46
set clk_io_pct 0.2

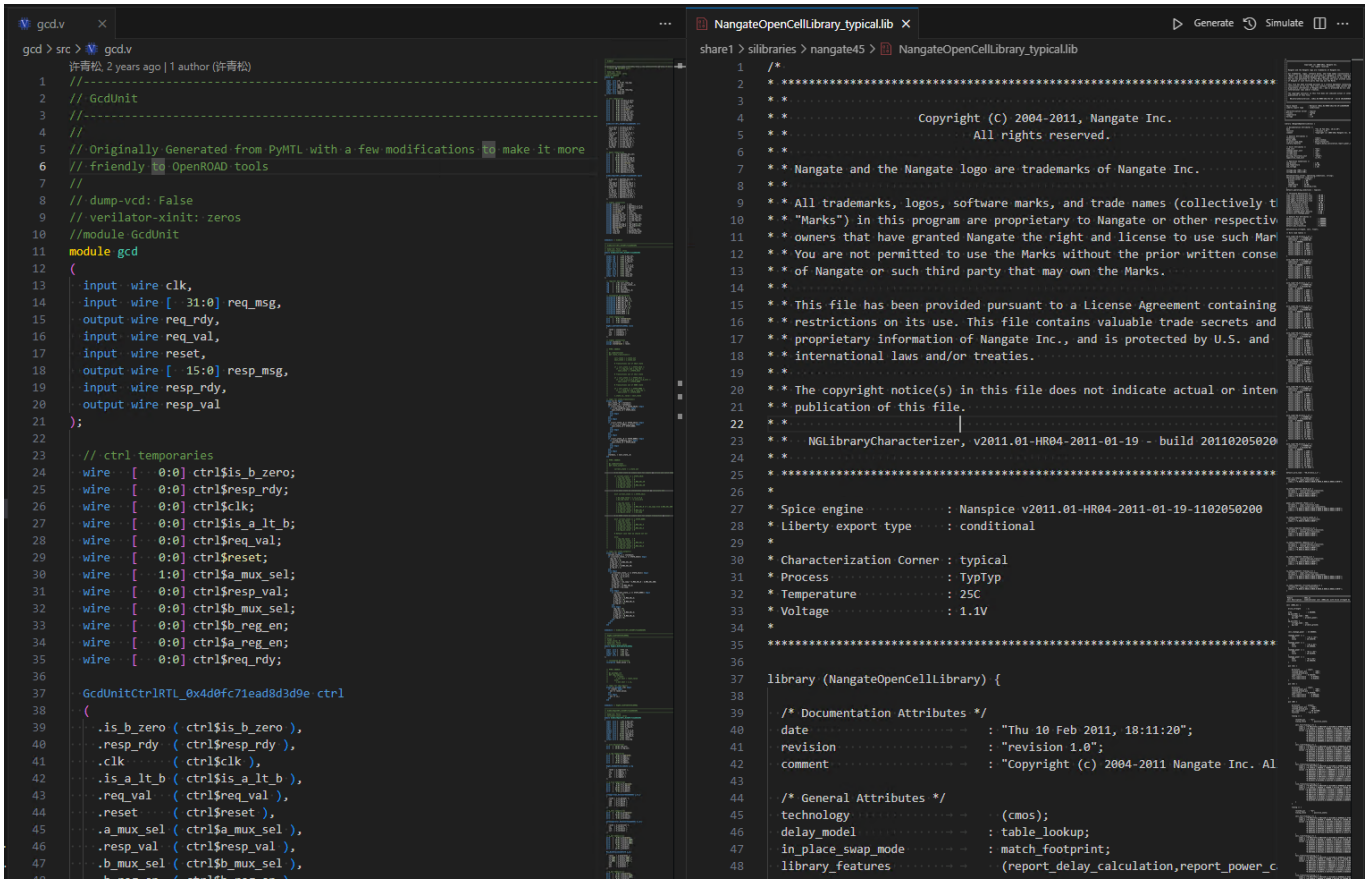
set clk_port [get_ports $clk_port_name]

create_clock -name $clk_name -period $clk_period $clk_port

set all_input_ports [all_inputs]
set non_clock_input_list {}
foreach port $all_input_ports {
```

```
    if {![string equal $port $clk_port]} {
        lappend non_clock_input_list $port
    }
}
if { [llength $non_clock_input_list] > 0 } {
    set_input_delay [expr $clk_period * $clk_io_pct] -clock $clk_name $non_clock_input_list
}
set_output_delay [expr $clk_period * $clk_io_pct] -clock $clk_name [all_outputs]
```

本次示例的 lib 文件和 rtl 文件如下:



使用 *RainaSynth -f run.tcl* 终端输出如下:

```
Raina>> read_liberty /share1/silibraries/nangate45/lib/NangateOpenCellLibrary_typical.lib
Raina>> [Info-LIBERTY_004] Default Liberty Lib is setting to NangateOpenCellLibrary.
Raina>> CPU Time: 2s   Mem Cost: 36.867188 MB
Raina>>
Raina>> set path /home/tanlinfeng/git/PPA_testcases/gcd/src
Raina>> /home/tanlinfeng/git/PPA_testcases/gcd/src
Raina>>
Raina>> foreach v [glob -nocomplain -directory $path *.v] {
Raina>> analyze $v
Raina>> }
Raina>> CPU Time: 0s   Mem Cost: 280.000000 KB
Raina>>
Raina>> elaborate gcd
Raina>> CPU Time: 0s   Mem Cost: 3.164062 MB
Raina>>
Raina>> synth -top gcd
Raina>> [Info-SYNTH_105] Remove a Sequential cell do_swap_reg_reg in module GcdUnitCtrlRTL_0x4d0fc71ead8d3d9e, because it's dangling
Raina>> [Info-SYNTH_105] Remove a Sequential cell do_sub_reg_reg in module GcdUnitCtrlRTL_0x4d0fc71ead8d3d9e, because it's dangling
Raina>>
Raina>>
Raina>> Information Statistics
Raina>> ------------------------ Hierarchy -------------------------
Raina>> gcd                                                    1
Raina>> GcdUnitCtrlRTL_0x4d0fc71ead8d3d9e                    1
Raina>> RegRst_0x9f365fdf6c8998a                           1
Raina>> GcdUnitDpathRTL_0x4d0fc71ead8d3d9e                   1
Raina>> LtComparator_0x422b1f52edd46a85                    1
Raina>> Mux_0x683fa1a418b072c9                             1
Raina>> Mux_0xdd6473406d1a99a                              1
Raina>> RegEn_0x68db79c4ec1d6e5b                           2
Raina>> Subtractor_0x422b1f52edd46a85                      1
Raina>> ZeroComparator_0x422b1f52edd46a85                  1
Raina>>
Raina>> Number of hierarchical cell:                        10
Raina>> Number of hierarchical port:                        72
Raina>> Number of wire:                                    306
Raina>> Number of wire bits:                               972
Raina>> Number of combinational cell:                      449
Raina>> Number of sequential cell:                          34
```

输出 PPA 输出如图示:



area.rpt

```
gcd > nangate45 > thor > log > area.rpt
1  ****************************************
2  Report: area
3  Design: gcd
4  Date   : Thu Jun 12 15:46:53 2025
5  ****************************************
6
7  Library(s) Used:
8
9      GEN_LIB (File: )
10     NangateOpenCellLibrary (File: /share1/silibraries/n
11
12 Number of ports:                423
13 Number of nets:                836
14 Number of cells:               454
15 Number of combinational cells:  410
16 Number of sequential cells:     34
17 Number of macros/black boxes:   0
18 Number of buf/inv:              95
19 Number of references:           2
20
21 Combinational area:       382.242310
22 Buf/Inv area:              50.540035
23 Noncombinational area:     153.748047
24 Macro/Black Box area:      0.000000
25
26 Total cell area:          535.990601
27
28
```

qor.rpt

```
gcd > nangate45 > thor > log > qor.rpt
1  ****************************************
2  *Report : qor
3  *        -significant_digits 2
4  *Design : gcd
5  *Version:
6  *Date   : Thu Jun 12 15:46:53 2025
7  ****************************************
8
9
10   Timing Path Group 'clk'
11   -----------------------------------------
12   Levels of Logic:               12.00
13   Max Logic Levels :             14
14   Critical Path Length:          1.09
15   Critical Path Slack:           -0.68
16   Critical Path Clk Period:      0.46
17   Total Negative Slack:          -20.68
18   No. of Violating Paths:        47
19   Worst Hold Violation:          -0.68
20   Total Hold Violation:          -20.68
21   No. of Hold Violations:        0
22   -----------------------------------------
23
24
25
26   Cell Count
27   -----------------------------------------
28   Hierarchical Cell Count:       10
29   Hierarchical Port Count:       369
30   Leaf Cell Count:               444
```

power.rpt

```
gcd > nangate45 > thor > log > power.rpt
1  ****************************************
2  Report: power
3  Design: gcd
4  Version:
5  Date   : Thu Jun 12 15:46:53 2025
6  ****************************************
7  Library(s) Used:
8
9      GEN_LIB (File: )
10     NangateOpenCellLibrary (File: /share1/silibraries/n
11
12 Operating Conditions: typical   Library: NangateOpenCel
13 Wire Load Model Mode: top
14
15 Design       Wire Load Model          Library
16 ------------------------------------------------
17 gcd       5K_hvratio_1_1       NangateOpenCellLibrary
18
19
20 Power Group     Internal Power   Switching Power   L
21 -----------------------------------------------------
22 Sequential      3.22e-04         5.22e-05          2
23 Combinational   4.30e-04         2.19e-04          9
24 Macro           0.00e+00         0.00e+00          0
25 Pad             0.00e+00         0.00e+00          0
26 -----------------------------------------------------
27 Total           7.52e-04W        2.72e-04W         1
28 -----------------------------------------------------
29
```

timing.rpt

```
gcd > nangate45 > thor > log > timing.rpt
1  Startpoint: dpath/b_reg/out_reg[9]
2            (rising edge-triggered flip-flop clocked by
3  Endpoint: dpath/a_reg/out_reg[0]
4            (rising edge-triggered flip-flop clocked by c
5  Path Group: clk
6  Path Type: max
7
8  Description                                  Delay     T
9  ----------------------------------------------------------
10 clock clk (rise edge)                      0.000000   0.000
11 clock network delay (ideal)                0.000000   0.000
12 dpath/b_reg/out_reg[9]/CK (DFF_X1)         0.000000   0.000
13 dpath/b_reg/out_reg[9]/Q (DFF_X1)          0.121600   0.121
14 dpath/a_lt_b/INV_X1_3_1/ZN (INV_X1)        0.038191   0.159
15 dpath/a_lt_b/OAI22_X1_3_8/ZN (OAI22_X1)
16                                            0.052990   0.212
17 dpath/a_lt_b/OAI21_X1_3_1/ZN (OAI21_X1)
18                                            0.037997   0.250
19 dpath/a_lt_b/NAND2_X1_3_3/ZN (NAND2_X1)
20                                            0.029642   0.280
21 dpath/a_lt_b/NAND3_X1_3_2/ZN (NAND3_X1)
22                                            0.029695   0.310
23 dpath/a_lt_b/AOI22_X1_3_9/ZN (AOI22_X1)
24                                            0.059797   0.369
25 ctrl/INV_X1_1_5/ZN (INV_X1)                0.038140   0.408
26 ctrl/NOR3_X1_1_1/ZN (NOR3_X1)              0.389645   0.797
27 dpath/a_mux/AND2_X1_4_1/ZN (AND2_X1)       0.167320   0.965
28 dpath/a_mux/AOI21_X1_4_16/ZN (AOI21_X1)
29                                            0.047021   1.012
30 dpath/a_reg/NAND2_X1_6_16/ZN (NAND2_X1)
31                                            0.032698   1.044
32 dpath/a_reg/OAI21_X1_6_16/ZN (OAI21_X1)
```

RainaSynth 模块命令一览

RainaSynth 作为新一代物理感知（Physical-aware）综合平台，凭借其独特的“设计即正确性”（Design-Correct-by-Construction）架构，为先进工艺节点下的芯片设计提供全流程支撑。工具由七大核心模块构成深度协同的工作引擎：

- Common：提供跨模块基础设施（分布式计算/加密授权/版本控制）

- Eco：支持门级网表和布局后物理数据的动态增量优化（Metal ECO ±5nm）
- GUI：基于OpenGL加速的3D设计空间探索，实现RTL-to-GDSII的可视化闭环
- Power：功耗分析与多电压域时钟门控优化，动态功耗较传统流程极大降低
- Report：一键生成签核级PPA报告（Timing/Power/Area/QoR覆盖率分析）
- Sdc：约束冲突自诊断引擎，缩短时序收敛周期
- Synthesis：结合物理预测技术的逻辑综合

Common 命令

基础服务层模块，该模块提供跨平台的核心架构支撑，包含全局配置文件管理、多线程任务调度引擎及跨模块通信总线。 实现设计数据统一版本控制（基于Git/SVN集成），支持Tcl/Python API脚本扩展。内置加密授权验证系统确保IP安全， 通过标准化数据接口（如OpenAccess DB适配器）实现与工艺库的实时同步。主要承担资源分配、异常日志追踪及进程间 通信协调，为上层模块提供公共基础设施服务。

- exit
- quit
- help
- set_print_config
- set_disable_path_max_fanout
- read_verilog
- read_spef
- read_sdf
- write_sdf
- read_liberty
- output_libs_info
- read_file
- analyze
- elaborate
- read_db
- read_sdc
- write_file
- list_libs
- remove_lib
- synth
- synth_netlist
- log_begin
- log_end
- log_output
- redirect
- set_dont_use
- set_dont_touch
- set_black_box
- set_attribute
- get_attribute
- remove_attribute

- report_attribute
- encrypt_file
- set_app_var
- get_app_var
- set_message_level
- sizeof_collection
- remove_from_collection
- query_objects
- add_to_collection
- get_object_name
- set_parallel_options
- setenv
- getenv
- unsetenv
- optimize

exit

quit

help

set_print_config

-scope
: Select the level of information to be printed

-threshold
: Output information with a level higher than the specified level

-default
: Set message level limit to default

-file
: Only print the information of the specified file

-max_wrap
: Set the maximum number of repeated print messages

-max_flod
: Set the maximum print length of Tcl list Object

-allow_fileline
: print the information of the specified files and lines

-cmd_flag

Control the print command execution result flag

-scope

Select the level of information to be printed

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	scope threshold default

simple case

There is currently no simple case.

-threshold

Output information with a level higher than the specified level

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	scope threshold default

simple case

There is currently no simple case.

-default

Set message level limit to default

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	scope threshold default

simple case

There is currently no simple case.

-file

Only print the information of the specified file

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max_wrap

Set the maximum number of repeated print messages

attribute

type:	INT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max_flod

Set the maximum print length of Tcl list Object

attribute

type:	INT
positional:	False

default:

related_options

simple case

There is currently no simple case.

-allow_fileline

print the information of the specified files and lines

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-cmd_flag

Control the print command execution result flag

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

set_disable_path_max_fanout

-max_fanout
Specifies to max fanout.

-max_fanout

Specifies to max fanout.

attribute

type:	INT
positional:	True
default:	10000

related_options

simple case

There is currently no simple case.

read_verilog

-file

File to be read

-netlist

Using netlist verilog reader

-file

File to be read

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-netlist

Using netlist verilog reader

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

read_spef

-file
: File to be read

-min
: min rc

-max
: max rc

-arnoldi
: arnoldi delay

-file

File to be read

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-min

min rc

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

max rc

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-arnoldi

arnoldi delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

read_sdf

-file
: File to be read

-min
: min rc

-max
: max rc

-file

File to be read

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-min

min rc

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

max rc

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

write_sdf

-file

File to be wrote

-significant_digits
digits

-file

File to be wrote

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-significant_digits

digits

attribute

type:	INT
positional:	False
default:	6

related_options

simple case

There is currently no simple case.

read_liberty

-files
Specify the liberty file

-db
Read db liberty file.

-output_cell_analyze
give a report of cell analyze

-files

Specify the liberty file

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-db

Read db liberty file.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-output_cell_analyze

give a report of cell analyze

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

output_libs_info

-file
: Specify the liberty file

-file

Specify the liberty file

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

read_file

-file_list
: Specify the design file list

-f
: File to be read

-define
: Specify the top level macros

-work
: Use this library as the work library

-format
: Specify the format of hdl files: verilog or sv, default is verilog

-top
: Specify the top module

-param
: Parameters for the design

-file_list

Specify the design file list

attribute

type:	STRLIST

positional: True
default:

related_options

simple case

There is currently no simple case.

-f

File to be read

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-define

Specify the top level macros

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-work

Use this library as the work library

attribute

type: STRING

positional: False
default:

related_options

simple case

There is currently no simple case.

-format

Specify the format of hdl files: verilog or sv, default is verilog

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-top

Specify the top module

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-param

Parameters for the design

attribute

type: STRLIST

positional: False
default:

related_options

simple case

There is currently no simple case.

analyze

-file_list
Files to be read in

-f
File_list to be read

-format
Specify the format of hdl files: verilog or sv, default is verilog

-work
Use this library as the work library

-define
Specify the top level macros

-top
Sepcify the top module

-incdir
Sepcify the including directory

-undef
Sepcify the undefined macro

-file_list

Files to be read in

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-f

File_list to be read

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-format

Specify the format of hdl files: verilog or sv, default is verilog

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-work

Use this library as the work library

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-define

Specify the top level macros

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-top

Sepcify the top module

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-incdir

Sepcify the including directory

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-undef

Sepcify the undefined macro

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

elaborate

-design_name
: Design to elaborate

-work
: Use this library as the work library

-param
: Parameters for the design

-design_name

Design to elaborate

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-work

Use this library as the work library

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-param

Parameters for the design

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

read_db

-file
File to be read

-file

File to be read

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

read_sdc

-file
: Files to be read

-silence
: Turn off information printing

-file

Files to be read

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-silence

Turn off information printing

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

write_file

-file
: Specify the file name

-db
: The db format

-sdc
: The sdc format

-netlist

The netlist format

-library

Specify the library name to write, library can only write with db format

---

-file

Specify the file name

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-db

The db format

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-sdc

The sdc format

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-netlist

The netlist format

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-library

Specify the library name to write, library can only write with db format

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

list_libs

-lib_list
: Specifies the libraries to list. You can use the * (asterisk) and ? (question mark) wildcard characters when specifying the libraries to list. For more information about using and escaping wildcards, see the wildcards man page.By default, the tool lists all libraries

-all
: List all libraries that are currently available in memory

-all_liberty

List all liberty libraries that are currently available in memory

-all_lef

List all lef libraries that are currently available in memoryt

-all_def

List all def libraries that are currently available in memory

-all_design

List all design libraries that are currently available in memory

---

-lib_list

Specifies the libraries to list. You can use the * (asterisk) and ? (question mark) wildcard characters when specifying the libraries to list. For more information about using and escaping wildcards, see the wildcards man page.By default, the tool lists all libraries

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-all

List all libraries that are currently available in memory

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-all_liberty

List all liberty libraries that are currently available in memory

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-all_lef

List all lef libraries that are currently available in memoryt

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-all_def

List all def libraries that are currently available in memory

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-all_design

List all design libraries that are currently available in memory

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

remove_lib

-lib_list
: A list of libraries to remove

-all
: Causes the removal of all libraries in raina.

-all_liberty
: Causes the removal of all liberty libraries in raina.

-all_lef
: Causes the removal of all lef libraries in raina.

-all_def
: Causes the removal of all def libraries in raina.

-all_design
: Causes the removal of all design libraries in raina.

-lib_list

A list of libraries to remove

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-all

Causes the removal of all libraries in raina.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-all_liberty

Causes the removal of all liberty libraries in raina.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-all_lef

Causes the removal of all lef libraries in raina.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-all_def

Causes the removal of all def libraries in raina.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-all_design

Causes the removal of all design libraries in raina.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

synth

-top
: Specify the top name

-area
: Apply area-driven synthesis.

-ldm
: Apply LDM.

-ldm_opt
: Apply LDM-OPT.

-abc_script
: Specify the abc script file

-no_boundary_optimization

Specify that no hierarchical boundary optimization is going to be performed

-autoungroup

Specify that automatic ungrouping is completely enabled

-top

Specify the top name

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-area

Apply area-driven synthesis.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	area abc_script

simple case

There is currently no simple case.

-ldm

Apply LDM.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-ldm_opt

Apply LDM-OPT.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-abc_script

Specify the abc script file

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	area abc_script

simple case

There is currently no simple case.

-no_boundary_optimization

Specify that no hierarchical boundary optimization is going to be performed

attribute

type:	BOOL
positional:	False

default:

related_options

simple case

There is currently no simple case.

-autoungroup

Specify that automatic ungrouping is completely enabled

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

synth_netlist

-top
Specify the top name

-top

Specify the top name

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

log_begin

-file

Specify the output log file

-append
Enable append mode

-screen_printing_off
Turn off screen printing

-file

Specify the output log file

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-append

Enable append mode

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-screen_printing_off

Turn off screen printing

attribute

type: BOOL
positional: False

default:

related_options

simple case

There is currently no simple case.

log_end

log_output

-mode

Specify the log_output mode: > or >>

-file

Specify the output log file

-mode

Specify the log_output mode: > or >>

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-file

Specify the output log file

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

redirect

-append
: Append output to the file

-tee
: Tee output to the current output stream

-file
: Output to a file (default)

-compress
: Compress when writing to file

-variable
: Output to a variable

-channel
: Output to a Tcl channel

-bg
: Execute redirected cmd string in background. PID of the background process is return when this option is used

-max_cores
: Number of cores to use to execute the command in background

-target
: Name of file/variable target for redirect

-command_string
: Command to redirect. Should be in braces {}

-append

Append output to the file

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	channel append

simple case

There is currently no simple case.

-tee

Tee output to the current output stream

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-file

Output to a file (default)

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	file channel variable

simple case

There is currently no simple case.

-compress

Compress when writing to file

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-variable

Output to a variable

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	file channel variable

simple case

There is currently no simple case.

-channel

Output to a Tcl channel

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	file channel variable
GroupType.TYPE_CONFLICT:	channel append

simple case

There is currently no simple case.

-bg

Execute redirected cmd string in background. PID of the background process is return when this option is used

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max_cores

Number of cores to use to execute the command in background

attribute

type:	INT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-target

Name of file/variable target for redirect

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-command_string

Command to redirect. Should be in braces {}

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

set_dont_use

-power
set_dont_use for power optimization

-object_list
list of objects on which the attribute is to be set

-power

set_dont_use for power optimization

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-object_list

list of objects on which the attribute is to be set

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

set_dont_touch

-object_list
: list of objects not to be modified

-flag
: used to set true or false -- default is true

-object_list

list of objects not to be modified

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-flag

used to set true or false -- default is true

attribute

type:	STRING
positional:	True
default:	true

related_options

simple case

There is currently no simple case.

set_black_box

-work

library where the unit(s)/module(s) is analyzed(elaborated)

-module
name of Verilog module to black box

-work

library where the unit(s)/module(s) is analyzed(elaborated)

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-module

name of Verilog module to black box

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_attribute

-type
data_type(boolean, integer, float or string)

-bus
set attributes on the bus instead of bus members

-quiet
suppress error messages

-object_list

list of objects to set attribute

-attribute_name
name of the attribute

-attribute_value
attribute value

-type

data_type(boolean, integer, float or string)

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-bus

set attributes on the bus instead of bus members

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-quiet

suppress error messages

attribute

type:	BOOL
positional:	False

default:

related_options

simple case

There is currently no simple case.

-object_list

list of objects to set attribute

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-attribute_name

name of the attribute

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-attribute_value

attribute value

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

get_attribute

-quiet
: suppress error messages

-bus
: get attributes on the bus instead of bus members

-return_null_values
: return empty strings for failed objects

-object_list
: list of objects to get attribute

-attribute_name
: name of the attribute

-quiet

suppress error messages

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-bus

get attributes on the bus instead of bus members

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-return_null_values

return empty strings for failed objects

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-object_list

list of objects to get attribute

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-attribute_name

name of the attribute

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

remove_attribute

-object_list
: list of objects to remove attribute

-attribute_name
: name of the attribute

-quiet
: suppress error messages

-object_list

list of objects to remove attribute

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-attribute_name

name of the attribute

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-quiet

suppress error messages

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_attribute

-cell
: list of cell to report attribute

-net
: list of net to report attribute

-design
: list of design to report attribute

-reference
: list of reference to report attribute

-port
: list of port to report attribute

-pin
: list of pin to report attribute

-object_list
: list of objects to report attribute

-cell

list of cell to report attribute

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-net

list of net to report attribute

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-design

list of design to report attribute

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-reference

list of reference to report attribute

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-port

list of port to report attribute

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-pin

list of pin to report attribute

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-object_list

list of objects to report attribute

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

encrypt_file

-in
: input file'

-file_list
: input file list'

-out
: output file'

-in

input file'

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-file_list

input file list'

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-out

output file'

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_app_var

-name
: The name of this variable

-value
: The value of this variable

-name

The name of this variable

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-value

The value of this variable

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

get_app_var

-name
The name of this variable

-name

The name of this variable

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

set_message_level

-msg_tag
The tag of these messages

-level
The severity level

-msg_tag

The tag of these messages

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-level

The severity level

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

sizeof_collection

-collection
: Calculate the size of a collection

-collection

Calculate the size of a collection

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

remove_from_collection

-target_collection
: Base collection

-remove_object
: Specify the object(s) to remove

-intersect

Delete the same elements in two collections

-target_collection

Base collection

attribute

type:	COLLECTION
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-remove_object

Specify the object(s) to remove

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-intersect

Delete the same elements in two collections

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

query_objects

-objects
Specify the collection to be displayed

-objects

Specify the collection to be displayed

attribute

type:	COLLECTION
positional:	True
default:	

related_options

simple case

There is currently no simple case.

add_to_collection

-target_collection
Base collection

-object_spec
Specify the object(s) to add

-target_collection

Base collection

attribute

type:	COLLECTION
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-object_spec

Specify the object(s) to add

attribute

type:	COLLECTION
positional:	True
default:	

related_options

simple case

There is currently no simple case.

get_object_name

-object
(the object)

-object

(the object)

attribute

type:	COLLECTION
positional:	True
default:	

related_options

simple case

There is currently no simple case.

set_parallel_options

-max_cores
The number of threads in parallel computation

-max_timing_cores
set max cores for reporting timing

-max_read_spef_cores
set max cores for reading spef

-max_highlevel_cores

set max cores for highlevel optimization

-enable_dist
enable distributed computing

-max_cores

The number of threads in parallel computation

attribute

type:	INT
positional:	True
default:	1

related_options

simple case

There is currently no simple case.

-max_timing_cores

set max cores for reporting timing

attribute

type:	INT
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-max_read_spef_cores

set max cores for reading spef

attribute

type:	INT
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-max_highlevel_cores

set max cores for highlevel optimization

attribute

type:	INT
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-enable_dist

enable distributed computing

attribute

type:	BOOL
positional:	True
default:	false

related_options

simple case

There is currently no simple case.

setenv

-name
: The name of the system environment variable

-value
: The value of the system environment variable

-overwrite_en
: Environment variable override enable

-name

The name of the system environment variable

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-value

The value of the system environment variable

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-overwrite_en

Environment variable override enable

attribute

type:	BOOL
positional:	False
default:	true

related_options

simple case

There is currently no simple case.

getenv

-name
: The name of the system environment variable

-name

The name of the system environment variable

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

unsetenv

-name
: The name of the system environment variable

-name

The name of the system environment variable

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

optimize

-remapping
: Timing driving mapping

-physical
: Physical Opt include

-resynth

Optimize netlists using resynthesis iteration

-remapping

Timing driving mapping

attribute

type:	BOOL
positional:	False
default:	false

related_options

simple case

There is currently no simple case.

-physical

Physical Opt include

attribute

type:	BOOL
positional:	False
default:	false

related_options

simple case

There is currently no simple case.

-resynth

Optimize netlists using resynthesis iteration

attribute

type:	BOOL
positional:	False
default:	false

related_options

simple case

There is currently no simple case.

Eco 命令

专为增量式设计变更优化的ECO引擎，支持门级网表（Gate-level Netlist）与布局布线后物理数据的动态匹配。 通过自动识别逻辑锥（Logic Cone）影响范围，实现纳米级工艺下的金属层偏移修复（Metal ECO）和标准单元 增量替换（Cell Swap）。集成形式化等价性验证（Formal Equivalence Checking）确保功能一致性，支持多 场景ECO方案分析（面积/时序/功耗权衡），大幅降低设计迭代周期。

- insert_buffer
- create_net
- create_cell
- create_port
- connect_net
- remove_buffer
- connect_pin
- size_cell
- disconnect_net
- remove_net
- current_design_name
- current_instance
- create_design
- remove_design
- remove_port
- remove_bus
- create_bus
- remove_cell
- all_connected

insert_buffer

-new_net_names
: Base name for the new nets

-new_cell_names
: Base name for the new cells

-no_of_cells
: Number of level(s) of buffers to be introduced Value >= 1

-inverter_pair
: Insert a pair of inverter cells for each buffer

-object_list
: Nets or Pins and Ports which need to be buffered

-buffer_lib_cell

Reference buffer lib cell to be instantiated

-new_net_names

Base name for the new nets

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-new_cell_names

Base name for the new cells

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-no_of_cells

Number of level(s) of buffers to be introduced Value >= 1

attribute

type:	INT
positional:	False
default:	1

related_options

simple case

There is currently no simple case.

-inverter_pair

Insert a pair of inverter cells for each buffer

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-object_list

Nets or Pins and Ports which need to be buffered

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-buffer_lib_cell

Reference buffer lib cell to be instantiated

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

create_net

-power
: Create a power net. By default, the tool creates a signal net

-ground
: Create a ground net. By default, the tool creates a signal net

-net_list
: Specifies the names of the created nets.

-power

Create a power net. By default, the tool creates a signal net

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	power ground

simple case

There is currently no simple case.

-ground

Create a ground net. By default, the tool creates a signal net

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	power ground

simple case

There is currently no simple case.

-net_list

Specifies the names of the created nets.

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	net_list

simple case

There is currently no simple case.

create_cell

-cell_list
: Specify the names of cells created in the current design

-reference_name
: Specify the design or library cell that new cells reference

-hierarchical
: If you specify the reference_name, the cell_list must have a single element. if not, Create hierarchical cell instances and designs with the name given by cell_list

-logic
: Specifies that the new cell generates a logic 0 or logic 1 value.

-only_physical
: Creates a new physical or physical-only cell using a reference from the physical library.

-cell_list

Specify the names of cells created in the current design

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST: cell_list

simple case

There is currently no simple case.

-reference_name

Specify the design or library cell that new cells reference

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-hierarchical

If you specify the reference_name, the cell_list must have a single element. if not, Create hierarchical cell instances and designs with the name given by cell_list

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-logic

Specifies that the new cell generates a logic 0 or logic 1 value.

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-only_physical

Creates a new physical or physical-only cell using a reference from the physical library.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

create_port

-port_list
Specify names of ports created in the current design.

-direction
Specify the signal flow of the created port.

-port_list

Specify names of ports created in the current design.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

-direction

Specify the signal flow of the created port.

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	direction

simple case

There is currently no simple case.

connect_net

-net_name
: Specify the net to connect.

-object_list
: Specify a list of pins and ports to which the net is to be connected.

-net_name

Specify the net to connect.

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	net_name

simple case

There is currently no simple case.

-object_list

Specify a list of pins and ports to which the net is to be connected.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

remove_buffer

-from
Specifies the starting pin or port of the fanout tree from which the buffers or inverter pairs need to be removed.

-net
Specifies the starting net of the fanout tree from which the buffers or inverter pairs need to be removed

-to
Specifies the ending pins or ports where the fanout traversal stops.

-level
Specifies the number of levels for buffers or inverter pairs to be removed.

-cell_list
Specifies the buffer or inverter cells to be removed

-from

Specifies the starting pin or port of the fanout tree from which the buffers or inverter pairs need to be removed.

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: from net
GroupType.TYPE_CONFLICT: cell_list from

simple case

There is currently no simple case.

-net

Specifies the starting net of the fanout tree from which the buffers or inverter pairs need to be removed

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from net

simple case

There is currently no simple case.

-to

Specifies the ending pins or ports where the fanout traversal stops.

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to level
GroupType.TYPE_CONFLICT:	cell_list to

simple case

There is currently no simple case.

-level

Specifies the number of levels for buffers or inverter pairs to be removed.

attribute

type:	INT

positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	to level

simple case

There is currently no simple case.

-cell_list

Specifies the buffer or inverter cells to be removed

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	cell_list from
GroupType.TYPE_CONFLICT:	cell_list to

simple case

There is currently no simple case.

connect_pin

-from
: Specifies the pin or port from which to make the connection.

-to
: Specifies the pins and ports to which to make the connection.

-port_name
: Specifies the base name to use as the names of ports that are created on subdesigns to make the connection.

-verbose
: Specifies that the tool displays individual netlist operations while making the global connections.

-from

Specifies the pin or port from which to make the connection.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST: from

simple case

There is currently no simple case.

-to

Specifies the pins and ports to which to make the connection.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST: to

simple case

There is currently no simple case.

-port_name

Specifies the base name to use as the names of ports that are created on subdesigns to make the connection.

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: port_name

simple case

There is currently no simple case.

-verbose

Specifies that the tool displays individual netlist operations while making the global connections.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

size_cell

-cell_object
: Specifies the leaf cell to be relinked

-lib_cell_object
: Specifies the library cell objects to which the specified cell is to be linked.

-cell_object

Specifies the leaf cell to be relinked

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-lib_cell_object

Specifies the library cell objects to which the specified cell is to be linked.

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

disconnect_net

-net
Specifies the net name or net instance name to disconnect.

-object_list
Specifies the pins and ports disconnected from the net.

-all
Specifies to break all connections on the net.

-net

Specifies the net name or net instance name to disconnect.

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: net

simple case

There is currently no simple case.

-object_list

Specifies the pins and ports disconnected from the net.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST:	object_list all
GroupType.TYPE_CONFLICT:	object_list all

simple case

There is currently no simple case.

-all

Specifies to break all connections on the net.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	object_list all
GroupType.TYPE_CONFLICT:	object_list all

simple case

There is currently no simple case.

remove_net

-net_list

design Specifies the working or focal design for many commands.

-all

Removes all nets in the current design.

-only_physical

Removes only physical nets in the current design.

-net_list

design Specifies the working or focal design for many commands.

attribute

type:	STRLIST
positional:	False

default:

related_options

GroupType.TYPE_LEAST: all net_list

simple case

There is currently no simple case.

-all

Removes all nets in the current design.

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_LEAST: all net_list

simple case

There is currently no simple case.

-only_physical

Removes only physical nets in the current design.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

current_design_name

current_instance

-instance
Specifies the working cell.

-instance

Specifies the working cell.

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

create_design

-design_name
Specifies the name of the design to be created.

-file_name
Specifies the name of the file in which the new design is placed.

-design_name

Specifies the name of the design to be created.

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	design_name

simple case

There is currently no simple case.

-file_name

Specifies the name of the file in which the new design is placed.

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

remove_design

-design_list
: Specifies the designs or libraries to remove.

-designs
: Removes all designs in memory.

-all
: Removes all designs and libraries in memory.

-hierarchy
: Removes all designs within the hierarchy of the designs in the design_list argument or in the current design.

-quiet
: Turns off verbose mode that prints out messages showing the names of the designs or libraries that are being removed.

-design_list

Specifies the designs or libraries to remove.

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	design_list designs
GroupType.TYPE_CONFLICT:	design_list all

simple case

There is currently no simple case.

-designs

Removes all designs in memory.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	design_list designs
GroupType.TYPE_CONFLICT:	designs all
GroupType.TYPE_CONFLICT:	designs hierarchy

simple case

There is currently no simple case.

-all

Removes all designs and libraries in memory.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	design_list all
GroupType.TYPE_CONFLICT:	designs all
GroupType.TYPE_CONFLICT:	all hierarchy

simple case

There is currently no simple case.

-hierarchy

Removes all designs within the hierarchy of the designs in the design_list argument or in the current design.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	designs hierarchy
GroupType.TYPE_CONFLICT:	all hierarchy

simple case

There is currently no simple case.

-quiet

Turns off verbose mode that prints out messages showing the names of the designs or libraries that are being removed.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

remove_port

-port_list

Specifies a list of ports to be removed from the current design.

-port_list

Specifies a list of ports to be removed from the current design.

attribute

type:	STRLIST
positional:	False

default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

remove_bus

-bus_list
Specifies a list of ports to be removed from the current design.

-bus_list

Specifies a list of ports to be removed from the current design.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST: bus_list

simple case

There is currently no simple case.

create_bus

-object_list
Specifies a list of ports or nets to be put into a bus.

-bus_name
Specifies the name of the bus.

-type
Assigns the specified type_name to the bused port. Valid types are port ar net.

-sort
Sorts the bits of the bus specified in object_list in alphanumeric order.

-no_sort
Specifies that the order of the bits in the bus should be the same as specified on the command line.

-start

Specifies the start bit for the bus.

-end

Specifies the end bit for the bus.

-object_list

Specifies a list of ports or nets to be put into a bus.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

-bus_name

Specifies the name of the bus.

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: bus_name

simple case

There is currently no simple case.

-type

Assigns the specified type_name to the bused port. Valid types are port ar net.

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-sort

Sorts the bits of the bus specified in object_list in alphanumeric order.

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: sort no_sort

simple case

There is currently no simple case.

-no_sort

Specifies that the order of the bits in the bus should be the same as specified on the command line.

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: sort no_sort

simple case

There is currently no simple case.

-start

Specifies the start bit for the bus.

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-end

Specifies the end bit for the bus.

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

remove_cell

-cell_list
: Specifies a list of cells to be removed from the current design.

-all
: Removes all cells in the current design.

-cell_list

Specifies a list of cells to be removed from the current design.

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_LEAST:	cell_list all
GroupType.TYPE_CONFLICT:	cell_list all

simple case

There is currently no simple case.

-all

Removes all cells in the current design.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	cell_list all
GroupType.TYPE_CONFLICT:	cell_list all

simple case

There is currently no simple case.

all_connected

-leaf
: Specifies that only leaf pins are returned for a hierarchical net.

-object
: Specifies the object whose connections are returned.

-leaf

Specifies that only leaf pins are returned for a hierarchical net.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-object

Specifies the object whose connections are returned.

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	object

simple case

There is currently no simple case.

GUI 命令

基于 electron/react 框架构建的多视图交互环境，提供层级化设计导航（Hierarchical Browser）、物理版图可视化 引擎（含GDSII/OASIS渲染）及动态高亮追踪（Dynamic Highlighting）。支持自定义工作区布局（Dockable Windows） 与多屏协同操作，集成实时DRC错误热力图与设计规则检查结果叠加显示。通过图形化约束编辑（Constraint Canvas）和 时序路径动画调试（Timing Path Animation）加速设计收敛，所有操作均与Tcl控制台双向同步。

- start_gui

start_gui

PowerNew 命令

多维度功耗分析系统，支持向量驱动（Vector-Based）和无向量（Vectorless）双模式功耗仿真。集成EM/IR分析引擎， 可执行单元级/网级/芯片级静态功耗（Leakage Power）与动态功耗（Switching Power）的向量感知分解。结合寄生参 数反标（Parasitic Back-Annotation）实现sign-off级电压降（IR Drop）热点定位，支持多转角（Multi-Corner） 多模式（Multi-Mode）功耗完整性验证，输出SPICE兼容的电流波形用于EM签核。

- read_saif
- read_vcd
- sim
- set_sim_input
- set_sim_reset

- set_sim_clk

read_saif

-file
: Files to be read and load

-file

Files to be read and load

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

read_vcd

-file
: Files to be read

-strip_path
: Specifies a path prefix that is to be stripped from all the object names read from the VCD file. This option is applied to strip the testbench and instance path from the VCD file.

-compare_with_saif
: internal option, convert vcd info to saif and compare with saif file.

-file

Files to be read

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-strip_path

Specifies a path prefix that is to be stripped from all the object names read from the VCD file. This option is applied to strip the testbench and instance path from the VCD file.

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-compare_with_saif

internal option, convert vcd info to saif and compare with saif file.

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

sim

-cycle

-vcd

-cycle

attribute

type:	INT
positional:	False
default:	100

related_options

simple case

There is currently no simple case.

-vcd

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_sim_input

-port
: Specify the input port to configure

-tr
: Specify the output duty cycle, the value is [0, 1]

-sp
: Specifies the clock tick on which the input depends

-width
: specify the bus width when data is a bus

-port

Specify the input port to configure

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-tr

Specify the output duty cycle, the value is [0, 1]

attribute

type: FLOAT
positional: True
default:

related_options

simple case

There is currently no simple case.

-sp

Specifies the clock tick on which the input depends

attribute

type: FLOAT
positional: True
default:

related_options

simple case

There is currently no simple case.

-width

specify the bus width when data is a bus

attribute

type: INT
positional: False
default: 1

related_options

simple case

There is currently no simple case.

set_sim_reset

-port
Specify the reset port to configure

-length
Specify the output duty cycle, the value is [0, 1]

-adverse
Specifies the clock tick on which the input depends

-validIndex
specify the bus width when data is a bus

-port

Specify the reset port to configure

attribute

type: STRING
positional: True
default:

related_options

simple case

There is currently no simple case.

-length

Specify the output duty cycle, the value is [0, 1]

attribute

type: INT
positional: True

default:

related_options

simple case

There is currently no simple case.

-adverse

Specifies the clock tick on which the input depends

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-validIndex

specify the bus width when data is a bus

attribute

type: INT
positional: False
default: 1

related_options

simple case

There is currently no simple case.

set_sim_clk

-port
Specify the clk port to configure

-frequency
Specify the output duty cycle, the value is [0, 1]

-phase

Specifies the clock tick on which the clk depends

-unit

specify the bus width when data is a bus

-adverse

Specifies the clock tick on which the input depends

-port

Specify the clk port to configure

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-frequency

Specify the output duty cycle, the value is [0, 1]

attribute

type:	FLOAT
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-phase

Specifies the clock tick on which the clk depends

attribute

type:	FLOAT
positional:	False

default: 0

related_options

simple case

There is currently no simple case.

-unit

specify the bus width when data is a bus

attribute

type: STRING
positional: False
default: KHz

related_options

simple case

There is currently no simple case.

-adverse

Specifies the clock tick on which the input depends

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

Report 命令

Report 模块是核心命令行驱动的报告生成引擎，提供一系列以 report_ 为前缀的专用命令（如 report_cell, report_net, report_timing, report_power, report_qor, report_area），用于按需提取和结构化呈现关键设计分析数据。该模块充当用户与数据库的交互接口，通过精确的命令参数控制（如指定路径深度、负载条件、功耗场景、面 积层级），实时从综合、布局布线或签核阶段提取细粒度或全局视角的信息。其处理能力涵盖：单元属性与连接关系 (report_cell, report_net)、时序路径延迟与违规分析 (report_timing)、静态/动态功

耗分解及热点定位 (report_power)、芯片级质量评估指标汇总如时序余量（WNS/TNS）、功耗密度、面积利用率 (report_qor)，以及 模块/层次化面积分布统计 (report_area)。通过标准化命令语法，实现脚本自动化流程与设计状态的高效监控， 是设计调试、优化迭代及签核文档生成的基础设施。

- report_power
- report_power_calculation
- report_area
- report_timing
- report_cell
- report_net_fanout
- report_net
- report_reference
- report_qor
- report_design
- report_port
- report_timing_derate
- report_units
- report_lib
- report_delay_calculation
- get_pin_info
- check_design
- report_constraint
- report_bus
- report_wire_load
- report_hierarchy
- report_clock_gating
- report_buffer_tree
- get_fanin_pins
- get_fanout_pins
- report_clock
- report_clock_fanout

report_power

-instances
: report power for specific instances.

-corner
: specify corner.

-digits
: the number fo digits to report.

-enable_new_model
: whether to enable the new model.

-cell

report power for specific cells, default report all.

-net

report power for specific nets, default report all.

-instances

report power for specific instances.

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-corner

specify corner.

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-digits

the number fo digits to report.

attribute

type:	INT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-enable_new_model

whether to enable the new model.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-cell

report power for specific cells, default report all.

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-net

report power for specific nets, default report all.

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_power_calculation

-object
Specifies the object on which the power calculation report. Object type can be cell, pin, net.

-digits
the number fo digits to report.

-object

Specifies the object on which the power calculation report. Object type can be cell, pin, net.

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-digits

the number fo digits to report.

attribute

type:	INT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_area

-detailed

-detailed

attribute

type:	BOOL
positional:	False
default:	false

related_options

simple case

There is currently no simple case.

report_timing

-from
: Reports only the paths from the named pins, ports, or clocks.

-rise_from
: Same as the -from option, except that the path must rise from the objects specified.

-fall_from
: Same as the -from option, except that the path must fall from the objects specified.

-through
: Reports only paths that pass through the named pins, ports, or clocks

-rise_through
: Reports only paths with a rising transition at the specified objects.

-fall_through
: Reports only paths with a falling transition at the specified objects.

-to
: Reports only the paths to the named pins, ports, or clocks.

-rise_to
: Same as the -to option, except that the path must rise to the objects specified.

-fall_to
: Same as the -to option, except that the path must fall to the objects specified.

-unconstrained
: Report unconstrained paths. By default unconstrained paths are not reported.

-path_type
: Specifies the path type at the endpoint. The default is max.

-max_paths

The number of paths to report in each path group. The default is 1

-nworst
: The number of paths to report for each endpoint. The default is 1.

-unique_paths_to_endpoint
: With this option only the worst path through the set of pis is reported

-corner
: Only report paths for this process corner. But default the paths across all process corners are reported.

-slack_lesser_than
: Only report paths with less slack than max_slack.

-slack_greater_than
: Only report paths with less slack than min_slack.

-sort_by_slack
: Sort paths by slack rather than slack grouped by path group.

-group
: List of path group names to report. Default all path groups are reported.

-format
: Report default path type are start and end points and the path.

-digits
: The number of digits after the decimal point to report.

-no_line_split
: Do not split long lines into multiple lines

-input_pins
: Report list of input_pins.

-capacitance
: Report list of capacitance.

-transition
: Report list of transition.

-nets
: Report list of nets.

-from

Reports only the paths from the named pins, ports, or clocks.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-rise_from

Same as the -from option, except that the path must rise from the objects specified.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall_from

Same as the -from option, except that the path must fall from the objects specified.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-through

Reports only paths that pass through the named pins, ports, or clocks

attribute

type: GROUPSTR
positional: False
default:

related_options

simple case

There is currently no simple case.

-rise_through

Reports only paths with a rising transition at the specified objects.

attribute

type: GROUPSTR
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall_through

Reports only paths with a falling transition at the specified objects.

attribute

type: GROUPSTR
positional: False
default:

related_options

simple case

There is currently no simple case.

-to

Reports only the paths to the named pins, ports, or clocks.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-rise_to

Same as the -to option, except that the path must rise to the objects specified.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall_to

Same as the -to option, except that the path must fall to the objects specified.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-unconstrained

Report unconstrained paths. By default unconstrained paths are not reported.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-path_type

Specifies the path type at the endpoint. The default is max.

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_paths

The number of paths to report in each path group. The default is 1

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-nworst

The number of paths to report for each endpoint. The default is 1.

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-unique_paths_to_endpoint

With this option only the worst path through the set of pis is reported

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-corner

Only report paths for this process corner. But default the paths across all process corners are reported.

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-slack_lesser_than

Only report paths with less slack than max_slack.

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-slack_greater_than

Only report paths with less slack than min_slack.

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-sort_by_slack

Sort paths by slack rather than slack grouped by path group.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-group

List of path group names to report. Default all path groups are reported.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-format

Report default path type are start and end points and the path.

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-digits

The number of digits after the decimal point to report.

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-no_line_split

Do not split long lines into multiple lines

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-input_pins

Report list of input_pins.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-capacitance

Report list of capacitance.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-transition

Report list of transition.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-nets

Report list of nets.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_cell

-nosplit
: Prevents line splitting and facilitates writing software to extract information from the report output

-connections
: Displays all pins of the cell and the connected nets

-verbose
: Displays verbose connection information

-physical
: Reports the orientation and location of the cell

-only_physical
: Reports information for physical-only cells

-significant_digits
: Specifies the number of digits to the right of the decimal point that are reported

-cell_list
: Specifies the cells and instances to show in the report

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-connections

Displays all pins of the cell and the connected nets

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-verbose

Displays verbose connection information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-physical

Reports the orientation and location of the cell

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-only_physical

Reports information for physical-only cells

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-significant_digits

Specifies the number of digits to the right of the decimal point that are reported

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-cell_list

Specifies the cells and instances to show in the report

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

report_net_fanout

-nosplit
: Prevents line splitting and facilitates writing software to extract information from the report output

-high_fanout
: Specifies to show high fanout nets only A high fanout net is a net

-threshold
: Specifies to only show nets with more fanout than lower

-bound
: Specifies to only show nets with fanout less than or equal to upper

-verbose
: Displays verbose connection information

-connections
: Displays information about pins connected to the nets.

-physical
: Displays location information when applicable.

-min
: Shows the minimum conditions

-tree
: Indicates to treat a buffer tree as transparent.

-depth
: Displays only buffer trees with more levels than level.

-net_list
: Specifies to process only those nets on the net_list.

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-high_fanout

Specifies to show high fanout nets only A high fanout net is a net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-threshold

Specifies to only show nets with more fanout than lower

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-bound

Specifies to only show nets with fanout less than or equal to upper

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-verbose

Displays verbose connection information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-connections

Displays information about pins connected to the nets.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-physical

Displays location information when applicable.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

Shows the minimum conditions

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-tree

Indicates to treat a buffer tree as transparent.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-depth

Displays only buffer trees with more levels than level.

attribute

type:	INT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-net_list

Specifies to process only those nets on the net_list.

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

report_net

-nosplit
: Prevents line splitting and facilitates writing software to extract information from the report output

-noflat
: report the fanin and fanout for a net only at the current level of hierarchy

-transition_times
: Reports the rise and fall transition times for each net at the end of the report

-only_physical
: Reports the preroutes of the physical net

-verbose
: Reports verbose connection information when used with the -connections option

-cell_degradation

Reports the capacitance on the net

-connections
Displays information about pins connected to the nets.

-physical
Reports the total wire length of the net and preroutes of the net

-min
Shows the minimum conditions

-significant_digits
Specifies the number of digits to the right of the decimal point to report

-max_toggle_rate
Shows the maximum toggle rate values for each net

-max_capacitance
Shows the maximum capacitance values for each net

-scenarios
Reports the timing derate for the specified scenarios in a multi-scenario design

-net_list
Specifies to process only those nets on the net_list.

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-noflat

report the fanin and fanout for a net only at the current level of hierarchy

attribute

type:	BOOL
positional:	False

default:

related_options

simple case

There is currently no simple case.

-transition_times

Reports the rise and fall transition times for each net at the end of the report

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-only_physical

Reports the preroutes of the physical net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-verbose

Reports verbose connection information when used with the -connections option

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-cell_degradation

Reports the capacitance on the net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-connections

Displays information about pins connected to the nets.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-physical

Reports the total wire length of the net and preroutes of the net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

Shows the minimum conditions

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-significant_digits

Specifies the number of digits to the right of the decimal point to report

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_toggle_rate

Shows the maximum toggle rate values for each net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_capacitance

Shows the maximum capacitance values for each net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-scenarios

Reports the timing derate for the specified scenarios in a multi-scenario design

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-net_list

Specifies to process only those nets on the net_list.

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

report_reference

-nosplit
: Prevents line splitting and facilitates writing software to extract information from the report output

-hierarchy
: Displays information about references across the hierarchy in the current instance or the current design

---

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-hierarchy

Displays information about references across the hierarchy in the current instance or the current design

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_qor

-significant_digits
: Specifies the number of digits to the right of the decimal point to report

-scenarios
: Reports the QoR for the specified scenarios

-ignore_infeasible_paths
: Ignores all paths flagged as infeasible during the latest compilation

-summary
: Reports the QoR for all path groups

-drv
: report detail about [cap|trans|fanout] violation information

---

-significant_digits

Specifies the number of digits to the right of the decimal point to report

attribute

type:	INT
positional:	False
default:	2

related_options

simple case

There is currently no simple case.

-scenarios

Reports the QoR for the specified scenarios

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-ignore_infeasible_paths

Ignores all paths flagged as infeasible during the latest compilation

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-summary

Reports the QoR for all path groups

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-drv

report detail about [cap|trans|fanout] violation information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_design

-nosplit
: Prevents line splitting and facilitates writing software to extract information from the report output

-physical
: This option is ignored by Design Compiler

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-physical

This option is ignored by Design Compiler

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_port

-drive
: Specifies that the port report is to include only the sections showing the drive capability of input and inout ports

-verbose
: Specifies that the port report is to include all port informaSpecifies that the port report is to include all port informa

-physical

Reports the physical location of the port

-only_physical
Reports the physical only ports

-nosplit
Prevents line splitting and facilitates writing software to extract information from the report output

-significant_digits
Specifies the number of digits to the right of the decimal point to report

-port_list
Indicates that the port report is to include only the specified ports and cannot be used if the current instance is set

---

-drive

Specifies that the port report is to include only the sections showing the drive capability of input and inout ports

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-verbose

Specifies that the port report is to include all port informaSpecifies that the port report is to include all port informa

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-physical

Reports the physical location of the port

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-only_physical

Reports the physical only ports

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-significant_digits

Specifies the number of digits to the right of the decimal point to report

attribute

type:	INT
positional:	False
default:	2

related_options

simple case

There is currently no simple case.

-port_list

Indicates that the port report is to include only the specified ports and cannot be used if the current instance is set

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

report_timing_derate

-include_inherited
: display all the derates including inherited ones

-nosplit
: Don't split lines if column overflows

-pocvm_coefficient_scale_factor
: Specifies the number of digits to the right of the decimal point to report

-pocvm_guardband
: Show POCVM guardband derate factors

-scenarios
: report timing derate on specifed set of scenarios, skip on inactive scenario(s)

-object_list

list of cells and/or designs

-include_inherited

display all the derates including inherited ones

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-nosplit

Don't split lines if column overflows

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-pocvm_coefficient_scale_factor

Specifies the number of digits to the right of the decimal point to report

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-pocvm_guardband

Show POCVM guardband derate factors

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-scenarios

report timing derate on specifed set of scenarios, skip on inactive scenario(s)

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-object_list

list of cells and/or designs

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

report_units

report_lib

-libname
: name of the lib to report

-cell_list
: Specifies a list of cells about which information is to be reported. The default is to report information about all cells.This option applies to both logic libraries and physical libraries.

-all
: Lists all timing-related, power-related, electromigration-related, and FPGA-related information.

-em
: Lists all detailed electromigration-related information.This option applies only to logic libraries

-fpga
: Lists all detailed FPGA-related information, such as parts and I/O cell attributes

-full_table
: Lists each cell's state-table description in tabular, expanded form. This option applies only to logic libraries.

-k_factors
: Lists scaling information for library cells. This option applies only to logic libraries.

-power
: Lists all detailed power-related information. This option applies only to logic libraries.

-power_label
: Lists the power labels for all power arcs, if specified, in a tabular form. This option applies only to logic libraries.

-routing_rule
: Lists nondefault routing rule information from physical libraries. This option applies only to physical libraries.

-rwm
: Lists routing wire model information from physical libraries.

-table
: Lists each cell's state-table description in compact form. This option applies only to logic libraries.

-timing
: Lists all detailed timing-related information. This option applies only to logic libraries.

-timing_arcs

Lists all cell timing arcs. This option applies only to logic libraries.

-timing_label
Lists the timing labels for all timing arcs, if specified, in a tabular form. This option applies only to logic libraries.

-user_defined_data
Lists detailed information about the user-defined groups and attributes. This option applies to both logic libraries and physical libraries.

-vhdl_name
Lists the cells and ports whose database (.db) names are different from their VHDL names. This option applies only to logic libraries.

-yield
Lists failure rate information for library cells. This option applies only to logic libraries.

-switch
Lists pin switch function information and cell-level steady state current information. This option applies only to logic libraries.

-pg_pin
Lists power and ground pin information. This option applies only to logic libraries.

-char
Lists cell characterization information, such as sensitization and pre-driver model. This option applies only to logic libraries.

-operating_condition
Lists all library operating condition information.

-op_cond_name
Lists operating condition information by name.

-noise
Lists all detailed noise-related information in the specified library. This option applies only to logic libraries.

-noise_arcs
Lists all cell noise arcs. This option applies only to logic libraries.

-libname

name of the lib to report

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-cell_list

Specifies a list of cells about which information is to be reported. The default is to report information about all cells.This option applies to both logic libraries and physical libraries.

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-all

Lists all timing-related, power-related, electromigration-related, and FPGA-related information.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-em

Lists all detailed electromigration-related information.This option applies only to logic libraries

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fpga

Lists all detailed FPGA-related information, such as parts and I/O cell attributes

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-full_table

Lists each cell's state-table description in tabular, expanded form. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-k_factors

Lists scaling information for library cells. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-power

Lists all detailed power-related information. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-power_label

Lists the power labels for all power arcs, if specified, in a tabular form. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-routing_rule

Lists nondefault routing rule information from physical libraries. This option applies only to physical libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-rwm

Lists routing wire model information from physical libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-table

Lists each cell's state-table description in compact form. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-timing

Lists all detailed timing-related information. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-timing_arcs

Lists all cell timing arcs. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-timing_label

Lists the timing labels for all timing arcs, if specified, in a tabular form. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-user_defined_data

Lists detailed information about the user-defined groups and attributes. This option applies to both logic libraries and physical libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-vhdl_name

Lists the cells and ports whose database (.db) names are different from their VHDL names. This option applies only to logic libraries.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-yield

Lists failure rate information for library cells. This option applies only to logic libraries.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-switch

Lists pin switch function information and cell-level steady state current information. This option applies only to logic libraries.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-pg_pin

Lists power and ground pin information. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-char

Lists cell characterization information, such as sensitization and pre-driver model. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-operating_condition

Lists all library operating condition information.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-op_cond_name

Lists operating condition information by name.

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-noise

Lists all detailed noise-related information in the specified library. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-noise_arcs

Lists all cell noise arcs. This option applies only to logic libraries.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_delay_calculation

-min
: report minimum delay calculation

-max
: report maximum delay calculation - default

-nosplit
: do not split lines when column fields overflow

-crosstalk
: reporting cross talk computations

-derate
: Show derate information

-from
: from pin

-to
: to pin

-from_rise_transition
: Pass from rise transition

-from_fall_transition
: Pass from fall transition

-digits
: the number of digits after the decimal point to report

-min

report minimum delay calculation

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

report maximum delay calculation - default

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-nosplit

do not split lines when column fields overflow

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-crosstalk

reporting cross talk computations

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-derate

Show derate information

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-from

from pin

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-to

to pin

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-from_rise_transition

Pass from rise transition

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-from_fall_transition

Pass from fall transition

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-digits

the number of digits after the decimal point to report

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

get_pin_info

-pin_name
: Specifies to process only those pin on the net_list.

-min
: get minimum pin

-max
: get maximum pin - default

-rise
: get rise pin

-fall
: get fall pin

-lib_pin
: get lib_pin for target pin

-from
: get from pin

-to
: get to pin

-is_clock_pin
: is_clock_pin

-is_related_pin
: is_related_pin

-is_constrained_pin
: is_constrained_pin

-is_asynch_pin
: is_asynch_pin

-is_port
: is_port

-direction
: direction

-is_enable
: is_enable

-level

level

-total_cap
total_cap

-lib_cap
lib_cap

-at
at

-rat
rat

-slack
slack

-slew
slew

-clocks
clocks

-net
net

-const_value
const_value

-digits
the number of digits after the decimal point to report

-is_ideal
pin of ideal network

-fanin
get the fanin vertex in graph

-fanout
get the fanout vertex in graph

-vertex_id
get the vertex index in graph

-pin_name

Specifies to process only those pin on the net_list.

attribute

type: STRING

positional: True
default:

related_options

simple case

There is currently no simple case.

-min

get minimum pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

get maximum pin - default

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-rise

get rise pin

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

get fall pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-lib_pin

get lib_pin for target pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-from

get from pin

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-to

get to pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-is_clock_pin

is_clock_pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-is_related_pin

is_related_pin

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-is_constrained_pin

is_constrained_pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-is_asynch_pin

is_asynch_pin

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-is_port

is_port

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-direction

direction

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-is_enable

is_enable

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-level

level

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-total_cap

total_cap

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-lib_cap

lib_cap

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-at

at

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-rat

rat

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-slack

slack

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-slew

slew

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-clocks

clocks

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-net

net

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-const_value

const_value

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-digits

the number of digits after the decimal point to report

attribute

type: INT
positional: False
default:

related_options

simple case

There is currently no simple case.

-is_ideal

pin of ideal network

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fanin

get the fanin vertex in graph

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-fanout

get the fanout vertex in graph

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-vertex_id

get the vertex index in graph

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

check_design

-summary
Displays a summary of the warning messages instead of one mes- sage per warning.

-no_warnings
Suppresses warning messages, so only error messages are printed.

-one_level
: Performs checks at only the current level of hierarchy.

-multiple_designs
: Reports warning messages related to multiply-instantiated designs.

-no_connection_class
: Suppresses connection class warning messages.

-nosplit
: Prevents lines from being split when column fields overflow.

-unmapped
: Reports warning messages for unmapped cells when the cells are being checked. By default, these messages are suppressed.

-cells
: Reports the following warning messages for cells.

-ports
: Reports the following warning messages for ports.

-designs
: Reports the following warning messages for designs.

-nets
: Reports the following warning messages for nets.

-loop
: Reports the following warning messages for loops.

-tristates
: Reports the following warning messages for tristates.

-html_file_name
: Generates a report for the check_design command in HTML format.

-summary

Displays a summary of the warning messages instead of one mes- sage per warning.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-no_warnings

Suppresses warning messages, so only error messages are printed.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-one_level

Performs checks at only the current level of hierarchy.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-multiple_designs

Reports warning messages related to multiply-instantiated designs.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-no_connection_class

Suppresses connection class warning messages.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-nosplit

Prevents lines from being split when column fields overflow.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-unmapped

Reports warning messages for unmapped cells when the cells are being checked. By default, these messages are suppressed.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-cells

Reports the following warning messages for cells.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-ports

Reports the following warning messages for ports.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-designs

Reports the following warning messages for designs.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-nets

Reports the following warning messages for nets.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-loop

Reports the following warning messages for loops.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-tristates

Reports the following warning messages for tristates.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-html_file_name

Generates a report for the check_design command in HTML format.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_constraint

-all_violators
: show all constraint violators

-verbose
: show verbose format

-significant_digits
: from 0 to 13; default is 2

-max_area
: show only max_area information

-max_delay
: show only setup and max_delay information

-critical_range
: show only critical_range information

-min_delay
: show only hold and min_delay information

-max_capacitance
: show only max_capacitance information

-min_capacitance
: show only min_capacitance information

-max_transition
: show only max_transition information

-max_fanout

show only max_fanout information

-cell_degradation
show only cell_degradation information

-max_toggle_rate
show only max_toggle_rate information

-min_porosity
show only min_porosity information

-max_dynamic_power
show only max_dynamic_power information

-max_leakage_power
show only max_leakage_power information

-max_total_power
show only max_total_power information

-max_net_length
show only max_net_length information

-min_pulse_width
show only min_pulse_width information

-min_period
show only min_period information

-connection_class
show only connection_class information

-multiport_net
show only multiport_net information

-nosplit
do not split lines when column fields overflow

-ignore_infeasible_paths
report constraint ignoring infeasible paths

-all_violators

show all constraint violators

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-verbose

show verbose format

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-significant_digits

from 0 to 13; default is 2

attribute

type: INT
positional: False
default: 2

related_options

simple case

There is currently no simple case.

-max_area

show only max_area information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_delay

show only setup and max_delay information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-critical_range

show only critical_range information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min_delay

show only hold and min_delay information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_capacitance

show only max_capacitance information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min_capacitance

show only min_capacitance information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_transition

show only max_transition information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_fanout

show only max_fanout information

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-cell_degradation

show only cell_degradation information

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max_toggle_rate

show only max_toggle_rate information

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-min_porosity

show only min_porosity information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_dynamic_power

show only max_dynamic_power information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_leakage_power

show only max_leakage_power information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_total_power

show only max_total_power information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_net_length

show only max_net_length information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min_pulse_width

show only min_pulse_width information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min_period

show only min_period information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-connection_class

show only connection_class information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-multiport_net

show only multiport_net information

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-nosplit

do not split lines when column fields overflow

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-ignore_infeasible_paths

report constraint ignoring infeasible paths

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_bus

-nosplit

Prevents line splitting and facilitates writing software to extract information from the output report.

-nosplit

Prevents line splitting and facilitates writing software to extract information from the output report.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_wire_load

-design
Specifies the design name for which to report wire-load models.

-name
Specifies the name of the wire-load model to report.

-libraries
Specifies to also report on wire-load models in the libraries used to link the current design.

-nosplit
Prevents line splitting and facilitates writing software to extract information from the report output.

-design

Specifies the design name for which to report wire-load models.

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-name

Specifies the name of the wire-load model to report.

attribute

type: STRING

positional: False
default:

related_options

simple case

There is currently no simple case.

-libraries

Specifies to also report on wire-load models in the libraries used to link the current design.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_hierarchy

-nosplit
: Prevents line splitting and facilitates writing software to extract information from the report output.

-full
: Displays the full hierarchy.

-noleaf

Indicates that the leaf library cells are to be excluded from the reference hierarchy report.

-nosplit

Prevents line splitting and facilitates writing software to extract information from the report output.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-full

Displays the full hierarchy.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-noleaf

Indicates that the leaf library cells are to be excluded from the reference hierarchy report.

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

report_clock_gating

-no_hier
: Do not traverse design hierarchy

-verbose
: Produce a verbose report

-gated
: Produce a report about all gated registers

-ungated
: Produce a report about all ungated registers

-gating_elements
: Produce a report about all clock gating elements

-multi_stage
: Report multi-stage clock gating statistics

-structure
: Report summary and detailed clock gating structure

-enable_conditions
: Report enable conditions for clock gates and registers

-no_hier

Do not traverse design hierarchy

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-verbose

Produce a verbose report

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-gated

Produce a report about all gated registers

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-ungated

Produce a report about all ungated registers

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-gating_elements

Produce a report about all clock gating elements

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-multi_stage

Report multi-stage clock gating statistics

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-structure

Report summary and detailed clock gating structure

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-enable_conditions

Report enable conditions for clock gates and registers

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_buffer_tree

-from
Do not traverse design hierarchy

-net
Produce a verbose report

-depth
Produce a report about all gated registers

-connections
Produce a report about all ungated registers

-hierarchy
Produce a report about all clock gating elements

-physical
Report multi-stage clock gating statistics

-nosplit
Report summary and detailed clock gating structure

-from

Do not traverse design hierarchy

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: from net

simple case

There is currently no simple case.

-net

Produce a verbose report

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from net

simple case

There is currently no simple case.

-depth

Produce a report about all gated registers

attribute

type:	INT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-connections

Produce a report about all ungated registers

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-hierarchy

Produce a report about all clock gating elements

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-physical

Report multi-stage clock gating statistics

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-nosplit

Report summary and detailed clock gating structure

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_fanin_pins

-object_list
: Specifies the 'nets' and 'pin' to show in the report

-level
: Level of logic cone

-verbose
: Display a verbose infomation

-object_list

Specifies the 'nets' and 'pin' to show in the report

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-level

Level of logic cone

attribute

type:	INT
positional:	False
default:	1

related_options

simple case

There is currently no simple case.

-verbose

Display a verbose infomation

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_fanout_pins

-object_list
: Specifies the 'nets' and 'pin' to show in the report

-level
: Level of logic cone

-verbose
: Display a verbose infomation

-object_list

Specifies the 'nets' and 'pin' to show in the report

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-level

Level of logic cone

attribute

type:	INT
positional:	False

default: 1

related_options

simple case

There is currently no simple case.

-verbose

Display a verbose infomation

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

report_clock

-attributes
: Lists all clocks in the current design

-skew
: Display a verbose infomation

-groups
: Reports the clock groups information set on the design by the set_clock_groups command.

-clock_list
: Lists the clocks that are to be reported Substitute the collection you want for clock_names

-scenarios
: Reports clocks for the specified scenarios of a multi-scenario design

---

-attributes

Lists all clocks in the current design

attribute

type: BOOL
positional: False

default:

related_options

simple case

There is currently no simple case.

-skew

Display a verbose infomation

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-groups

Reports the clock groups information set on the design by the set_clock_groups command.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-clock_list

Lists the clocks that are to be reported Substitute the collection you want for clock_names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_CONFLICT:	clock_list scenarios

simple case

There is currently no simple case.

-scenarios

Reports clocks for the specified scenarios of a multi-scenario design

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	clock_list scenarios

simple case

There is currently no simple case.

report_clock_fanout

Sdc 命令

基于IEEE P1801标准的约束生命周期管理平台，支持SDC 2.1语法解析与语义检查。提供图形化时钟定义（Clock Wizard）、异常约束（False Path/Multicycle Path）交互式编辑及约束冲突诊断（Constraint Debugger）。 集成跨时钟域分析（CDC Verification）引擎，自动生成时钟组（Clock Groups）与时序例外出报告（Timing Exception Report），通过约束版本比较（Constraint Diff）实现ECO可追溯性。

- current_design
- get_ports
- all_inputs
- all_outputs
- get_cells
- get_pins
- get_nets
- get_libs
- get_lib_cells
- get_lib_pins
- all_registers

- get_clocks
- all_clocks
- create_clock
- set_drive
- set_driving_cell
- set_fanout_load
- set_input_transition
- set_load
- set_port_fanout_number
- set_input_delay
- set_output_delay
- set_logic_dc
- set_logic_one
- set_logic_zero
- set_case_analysis
- remove_case_analysis
- set_max_capacitance
- set_min_capacitance
- set_max_fanout
- set_max_transition
- set_false_path
- set_max_delay
- set_min_delay
- set_multicycle_path
- set_max_area
- create_generated_clock
- set_clock_latency
- set_clock_uncertainty
- set_clock_transition
- set_wire_load_model
- set_wire_load_mode
- set_wire_load_selection_group
- set_clock_gating_check
- set_sense
- set_data_check
- set_disable_timing
- set_clock_groups
- set_min_pulse_width
- set_max_time_borrow
- set_wire_load_min_block_size
- set_ideal_network
- set_ideal_latency
- set_ideal_transition
- set_propagated_clock
- set_resistance

- set_timing_derate
- group_path
- update_timing
- characterize
- write_sdc
- remove_propagated_clock
- set_disable_clock_gating_check
- set_operating_conditions
- set_units
- set_hierarchy_separator

current_design

-design
: The current design name

-force
: Clear timing info about origin. this mean you should re-read SDC

-design

The current design name

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-force

Clear timing info about origin. this mean you should re-read SDC

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_ports

-hierarchical
: Searches hierarchy levels below the current instance for matches

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-patterns
: Match the speacified patterns

-of_objects
: Collectes ports connected to the specified objects

-hierarchical

Searches hierarchy levels below the current instance for matches

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_CONFLICT:	of_objects patterns

simple case

There is currently no simple case.

-of_objects

Collectes ports connected to the specified objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	of_objects patterns

simple case

There is currently no simple case.

all_inputs

-clock
: Ports with input delay relative to clock

-edge_triggered
: Ports with non-level-sensitive input delay

-level_sensitive
: Ports with level-sensitive input delay

-clock

Ports with input delay relative to clock

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-edge_triggered

Ports with non-level-sensitive input delay

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-level_sensitive

Ports with level-sensitive input delay

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

all_outputs

-clock
: Ports with output delay relative to clock

-edge_triggered
: Ports with non-level-sensitive input delay

-level_sensitive
: Ports with level-sensitive input delay

-clock

Ports with output delay relative to clock

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-edge_triggered

Ports with non-level-sensitive input delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-level_sensitive

Ports with level-sensitive input delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_cells

-hierarchical
: Searches hierarchy levels below the current instance for matches

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-rtl
: Collect cells with attribute object_rtl_name

-patterns
: Match the speacified patterns

-of_objects
: Collectes cells connected to the specified objects

-hierarchical

Searches hierarchy levels below the current instance for matches

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-rtl

Collect cells with attribute object_rtl_name

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-of_objects

Collectes cells connected to the specified objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_pins

-hierarchical
: Searches hierarchy levels below the current instance for matches

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-patterns
: Match the speacified patterns

-leaf
: find leaf/global pins of nets with -of_objects

-of_objects
: Collectes cells connected to the specified objects

-hierarchical

Searches hierarchy levels below the current instance for matches

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-leaf

find leaf/global pins of nets with -of_objects

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-of_objects

Collectes cells connected to the specified objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_nets

-hierarchical
: Searches hierarchy levels below the current instance for matches

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-rtl
: Collect nets with attribute object_rtl_name

-patterns
: Match the speacified patterns

-of_objects
: Collectes nets connected to the specified objects

-hierarchical

Searches hierarchy levels below the current instance for matches

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-rtl

Collect nets with attribute object_rtl_name

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-of_objects

Collectes nets connected to the specified objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

get_libs

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-scenarios

Searches the libraries that are used in the specified scenarios.

-patterns
Match the speacified patterns

-of_objects
Collectes libraries related to these objects

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-scenarios

Searches the libraries that are used in the specified scenarios.

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_CONFLICT:	patterns of_objects

simple case

There is currently no simple case.

-of_objects

Collectes libraries related to these objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	patterns of_objects

simple case

There is currently no simple case.

get_lib_cells

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-scenarios
: Searches the libraries that are used in the specified scenarios.

-patterns
: Match the speacified patterns

-of_objects
: Collectes lib_cells related to these objects

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-scenarios

Searches the libraries that are used in the specified scenarios.

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_CONFLICT:	patterns of_objects

simple case

There is currently no simple case.

-of_objects

Collectes lib_cells related to these objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	patterns of_objects

simple case

There is currently no simple case.

get_lib_pins

-exact
: Considers wildcards to be plain characters

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-patterns
: Match the speacified patterns

-of_objects
: Collectes lib_pin related to these objects

-exact

Considers wildcards to be plain characters

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT: regexp exact

simple case

There is currently no simple case.

-regexp

Views the patterns argument as a regular expression

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: regexp exact

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type: BOOL

positional: False
default:

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_CONFLICT:	patterns of_objects

simple case

There is currently no simple case.

-of_objects

Collectes lib_pin related to these objects

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	patterns of_objects

simple case

There is currently no simple case.

all_registers

-no_hierarchy
Only search the top level of hierarchy

-clock
return registers of this clock

-rise_clock
return registers triggered by rise edge of this clock

-fall_clock
return registers triggered by fall edge of this clock

-cells
return cells - this is the default

-data_pins
Returns a collection of data pins

-clock_pins
Returns a collection of data pins

-slave_clock_pins
Returns a collection of slave clock pins of master-slave registers that meet the search criteria.

-output_pins
Returns a collection of output pins

-level_sensitive
Only consider level sensitive registers

-edge_triggered
Only consider edge sensitive registers

-master_slave
Only consider master/slave registers

-include_icg

Consider integrated_clock_gating registers

-patterns

Match the speacified patterns

-no_hierarchy

Only search the top level of hierarchy

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-clock

return registers of this clock

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-rise_clock

return registers triggered by rise edge of this clock

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall_clock

return registers triggered by fall edge of this clock

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-cells

return cells - this is the default

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-data_pins

Returns a collection of data pins

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-clock_pins

Returns a collection of data pins

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-slave_clock_pins

Returns a collection of slave clock pins of master-slave registers that meet the search criteria.

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-output_pins

Returns a collection of output pins

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-level_sensitive

Only consider level sensitive registers

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-edge_triggered

Only consider edge sensitive registers

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-master_slave

Only consider master/slave registers

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-include_icg

Consider integrated_clock_gating registers

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

get_clocks

-regexp
: Views the patterns argument as a regular expression

-nocase
: Makes matches case-insensitive

-quiet
: Suppresses warning and error messages if no objects match

-filter
: Filters the collection with the specified expression

-patterns

Match the speacified patterns

-regexp

Views the patterns argument as a regular expression

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-nocase

Makes matches case-insensitive

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-quiet

Suppresses warning and error messages if no objects match

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-filter

Filters the collection with the specified expression

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-patterns

Match the speacified patterns

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

all_clocks

create_clock

-source_objects
: List of ports or pins

-name
: Name for the clock

-period
: Period for the clock

-waveform

Specify the edge list [rise fall]

-add

Add to the existing ports or pins list

-comment

SDC comment string

-source_objects

List of ports or pins

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	name source_objects

simple case

There is currently no simple case.

-name

Name for the clock

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	name source_objects
GroupType.TYPE_DEPENDENT:	name

simple case

There is currently no simple case.

-period

Period for the clock

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-waveform

Specify the edge list [rise fall]

attribute

type: FLOATLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-add

Add to the existing ports or pins list

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-comment

SDC comment string

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

set_drive

-resistance
Specifies a nonnegative resistance value

-rise
Indicates that the rise_drive attributes

-fall
Indicates that the fall_drive attributes

-min
Indicates that the drive strength is to be applied for minimum delay analysis

-max
Indicates that the drive strength is to be applied for maximum delay analysis

-port_list
Specifies a list of input or inout port names

-resistance

Specifies a nonnegative resistance value

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: resistance

simple case

There is currently no simple case.

-rise

Indicates that the rise_drive attributes

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

Indicates that the fall_drive attributes

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

Indicates that the drive strength is to be applied for minimum delay analysis

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

Indicates that the drive strength is to be applied for maximum delay analysis

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-port_list

Specifies a list of input or inout port names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

set_driving_cell

-lib_cell
: Specifies the name of the library cell to use to drive ports

-library
: Specifies the library name or a collection of libraries

-rise
: Specifies that the lib_cell_name, lib, pin_name, and from_pin_name correspond to the rising case

-fall
: Specifies that the lib_cell_name, lib, pin_name, and from_pin_name correspond to the falling case

-min
: Sets driving cell information for analysis at the minimum operating condition only

-max
: Sets driving cell information for analysis at the maximum operating condition only

-pin
: Specifies the output pin on the driving cell that is to drive the ports

-from_pin
: Specifies the input pin on the driving cell to use when finding a timing arc

-dont_scale
: Specifies that the timing analyzer is not to scale the drive capability of the ports

-no_design_rule
: Indicates that the design rules associated with the driving cell are not to be applied to the driven port

-input_transition_rise
: Specifies the input rise transition time associated with the -from_pin option

-input_transition_fall
: Specifies the input fall transition time associated with the -from_pin option

-multiply_by
: Specifies a factor by which to multiply the delay characteristics of the ports

-port_list
: Specifies a list of input or inout port names

-lib_cell

Specifies the name of the library cell to use to drive ports

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	lib_cell

simple case

There is currently no simple case.

-library

Specifies the library name or a collection of libraries

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-rise

Specifies that the lib_cell_name, lib, pin_name, and from_pin_name correspond to the rising case

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

Specifies that the lib_cell_name, lib, pin_name, and from_pin_name correspond to the falling case

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

Sets driving cell information for analysis at the minimum operating condition only

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

Sets driving cell information for analysis at the maximum operating condition only

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-pin

Specifies the output pin on the driving cell that is to drive the ports

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-from_pin

Specifies the input pin on the driving cell to use when finding a timing arc

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-dont_scale

Specifies that the timing analyzer is not to scale the drive capability of the ports

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-no_design_rule

Indicates that the design rules associated with the driving cell are not to be applied to the driven port

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-input_transition_rise

Specifies the input rise transition time associated with the -from_pin option

attribute

type: FLOAT
positional: False
default: 0.0

related_options

simple case

There is currently no simple case.

-input_transition_fall

Specifies the input fall transition time associated with the -from_pin option

attribute

type: FLOAT
positional: False
default: 0.0

related_options

simple case

There is currently no simple case.

-multiply_by

Specifies a factor by which to multiply the delay characteristics of the ports

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-port_list

Specifies a list of input or inout port names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

set_fanout_load

-fanout_load
Specifies a fanout_load value

-port_list
Specifies a list of output port names

-fanout_load

Specifies a fanout_load value

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: fanout_load

simple case

There is currently no simple case.

-port_list

Specifies a list of output port names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

set_input_transition

-transition
Specifies a nonnegative transition value

-rise
Indicates that the rise attributes

-fall
Indicates that the fall attributes

-min
Indicates that the transition value is to be applied for minimum delay analysis

-max
Indicates that the transition value is to be applied for maximum delay analysis

-port_list
Specifies a list of input or inout port names

-transition

Specifies a nonnegative transition value

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: transition

simple case

There is currently no simple case.

-rise

Indicates that the rise attributes

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

Indicates that the fall attributes

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

Indicates that the transition value is to be applied for minimum delay analysis

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

Indicates that the transition value is to be applied for maximum delay analysis

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-port_list

Specifies a list of input or inout port names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

set_load

-load
Specifies the value of the load attribute

-min
Indicates that the load value is to be applied for minimum delay analysis

-max
Indicates that the load value is to be applied for maximum delay analysis

-subtract_pin_load
Indicates that the current pin capacitances of the net are to be subtracted

-pin_load
specified load value on the port is to be treated as a pin load

-wire_load
specified load value on the port is to be treated as a wire load

-object_list
Specifies a list of ports and nets

-load

Specifies the value of the load attribute

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	load

simple case

There is currently no simple case.

-min

Indicates that the load value is to be applied for minimum delay analysis

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

Indicates that the load value is to be applied for maximum delay analysis

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-subtract_pin_load

Indicates that the current pin capacitances of the net are to be subtracted

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-pin_load

specified load value on the port is to be treated as a pin load

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-wire_load

specified load value on the port is to be treated as a wire load

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-object_list

Specifies a list of ports and nets

attribute

type:	COLLECTION
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	object_list

simple case

There is currently no simple case.

set_port_fanout_number

-fanout_number
: Specifies the number of external fanout points

-port_list
: Specifies a list of ports

-fanout_number

Specifies the number of external fanout points

attribute

type:	INT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	fanout_number

simple case

There is currently no simple case.

-port_list

Specifies a list of ports

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: port_list

simple case

There is currently no simple case.

set_input_delay

-delay
Specifies the path delay

-rise
Specifies that delay value refers to a rising transition on specified ports

-fall
Specifies that delay value refers to a falling transition on specified ports

-min
Specifies that delay value refers to the shortest path

-max
Specifies that delay value refers to the longest path

-clock
Specifies the clock to which the specified delay is related

-clock_fall
Specifies that the delay is relative to the falling edge of the clock

-reference_pin
Specifies the clock pin or port to which the specified delay is related

-level_sensitive
Specifies that the destination of the delay is a level-sensitive latch

-source_latency_included
Specifies that the clock source latency is not added to the input delay value

-network_latency_included
Specifies that the clock network latency is not added to the input delay value

-add_delay

Specifies whether to add delay information to the existing input delay or to overwrite

-port_pin_list

Specifies a list of input port or internal pin names

-delay

Specifies the path delay

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay

simple case

There is currently no simple case.

-rise

Specifies that delay value refers to a rising transition on specified ports

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

Specifies that delay value refers to a falling transition on specified ports

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-min

Specifies that delay value refers to the shortest path

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

Specifies that delay value refers to the longest path

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-clock

Specifies the clock to which the specified delay is related

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_DEPENDENT:	clock

simple case

There is currently no simple case.

-clock_fall

Specifies that the delay is relative to the falling edge of the clock

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-reference_pin

Specifies the clock pin or port to which the specified delay is related

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	reference_pin source_latency_included
GroupType.TYPE_CONFLICT:	reference_pin network_latency_included

simple case

There is currently no simple case.

-level_sensitive

Specifies that the destination of the delay is a level-sensitive latch

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-source_latency_included

Specifies that the clock source latency is not added to the input delay value

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	reference_pin source_latency_included

simple case

There is currently no simple case.

-network_latency_included

Specifies that the clock network latency is not added to the input delay value

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	reference_pin network_latency_included

simple case

There is currently no simple case.

-add_delay

Specifies whether to add delay information to the existing input delay or to overwrite

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-port_pin_list

Specifies a list of input port or internal pin names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: port_pin_list

simple case

There is currently no simple case.

set_output_delay

-delay
: Specifies the path delay

-rise
: Specifies that delay value refers to a rising transition on specified ports

-fall
: Specifies that delay value refers to a falling transition on specified ports

-min
: Specifies that delay value refers to the shortest path

-max
: Specifies that delay value refers to the longest path

-clock
: Specifies the clock to which the specified delay is related

-clock_fall
: Specifies that the delay is relative to the falling edge of the clock

-reference_pin
: Specifies the clock pin or port to which the specified delay is related

-level_sensitive
: Specifies that the destination of the delay is a level-sensitive latch

-source_latency_included
: Specifies that the clock source latency is not added to the output delay value

-network_latency_included
: Specifies that the clock network latency is not added to the output delay value

-add_delay
: Specifies whether to add delay information to the existing output delay or to overwrite

-port_pin_list
: Specifies a list of output port or internal pin names

-group_path
: Specifies that paths ending at the specified ports or pins are added into the named group

---

-delay

Specifies the path delay

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay

simple case

There is currently no simple case.

-rise

Specifies that delay value refers to a rising transition on specified ports

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

Specifies that delay value refers to a falling transition on specified ports

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

Specifies that delay value refers to the shortest path

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

Specifies that delay value refers to the longest path

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-clock

Specifies the clock to which the specified delay is related

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_DEPENDENT:	clock

simple case

There is currently no simple case.

-clock_fall

Specifies that the delay is relative to the falling edge of the clock

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-reference_pin

Specifies the clock pin or port to which the specified delay is related

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	reference_pin source_latency_included
GroupType.TYPE_CONFLICT:	reference_pin network_latency_included

simple case

There is currently no simple case.

-level_sensitive

Specifies that the destination of the delay is a level-sensitive latch

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-source_latency_included

Specifies that the clock source latency is not added to the output delay value

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	reference_pin source_latency_included

simple case

There is currently no simple case.

-network_latency_included

Specifies that the clock network latency is not added to the output delay value

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	reference_pin network_latency_included

simple case

There is currently no simple case.

-add_delay

Specifies whether to add delay information to the existing output delay or to overwrite

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-port_pin_list

Specifies a list of output port or internal pin names

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	port_pin_list

simple case

There is currently no simple case.

-group_path

Specifies that paths ending at the specified ports or pins are added into the named group

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_logic_dc

-port_list
A list of input port names

-port_list

A list of input port names

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	port_list

simple case

There is currently no simple case.

set_logic_one

-port_list
A list of input port names

-port_list

A list of input port names

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	port_list

simple case

There is currently no simple case.

set_logic_zero

-port_list
: A list of input port names

-port_list

A list of input port names

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	port_list

simple case

There is currently no simple case.

set_case_analysis

-case
: Specifies the constant logic value or the transition

-pin_port_list
: A list of ports or pins names

-case

Specifies the constant logic value or the transition

attribute

type: STRING
positional: True
default:

related_options

GroupType.TYPE_LEAST: case

simple case

There is currently no simple case.

-pin_port_list

A list of ports or pins names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: pin_port_list

simple case

There is currently no simple case.

remove_case_analysis

-pin_port_list
A list of ports or pins names

-all
A list of ports or pins names

-pin_port_list

A list of ports or pins names

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_CONFLICT:	pin_port_list all

simple case

There is currently no simple case.

-all

A list of ports or pins names

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	pin_port_list all

simple case

There is currently no simple case.

set_max_capacitance

-capacitance
Specifies a value to the max_capacitance attribute

-data_path
Restricts the scope to data paths

-clock_path
Restricts the scope to clock paths

-object_list
Specifies a list of names of specified clocks, ports, or designs

---

-capacitance

Specifies a value to the max_capacitance attribute

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	capacitance

simple case

There is currently no simple case.

-data_path

Restricts the scope to data paths

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-clock_path

Restricts the scope to clock paths

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-object_list

Specifies a list of names of specified clocks, ports, or designs

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

set_min_capacitance

-capacitance
Specifies a value to the min_capacitance attribute

-object_list
Specifies a list of names of the input and/or bidirectional ports

---

-capacitance

Specifies a value to the min_capacitance attribute

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: capacitance

simple case

There is currently no simple case.

-object_list

Specifies a list of names of the input and/or bidirectional ports

attribute

type: STRLIST

positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

set_max_fanout

-fanout
Specifies a value to the max_fanout attribute

-object_list
Specifies a list of names of the input and/or designs

-fanout

Specifies a value to the max_fanout attribute

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: fanout

simple case

There is currently no simple case.

-object_list

Specifies a list of names of the input and/or designs

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

set_max_transition

-transition
Specifies the maximum transition time

-data_path
Restricts the scope to data paths

-clock_path
Restricts the scope to clock paths

-object_list
Specifies the names of the clocks, ports, or designs

-transition

Specifies the maximum transition time

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: transition

simple case

There is currently no simple case.

-data_path

Restricts the scope to data paths

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-clock_path

Restricts the scope to clock paths

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-object_list

Specifies the names of the clocks, ports, or designs

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

set_false_path

-rise
: Marks rising delays false, as measured on the path endpoint

-fall
: Marks falling delays false, as measured on the path endpoint

-setup
: Marks setup (maximum) paths false

-hold
: Marks hold (minimum) paths false

-from
: Specifies start points (clocks, ports, pins, or cells) of disabled paths

-rise_from
: Same as the -from option, except that the path must rise from the objects specified

-fall_from
: Same as the -from option, except that the path must fall from the objects specified

-through
: A list of path throughpoints (port, pin, or leaf cell names)

-rise_through
: Same as the -through option, but applies only to paths with a rising transition

-fall_through
: Same as the -through option, but applies only to paths with a falling transition

-to
: Specifies end points (clocks, ports, pins, or cells) of paths disabled

-rise_to
: Same as the -to option, but applies only to paths rising at the endpoint

-fall_to
: Same as the -to option, but applies only to paths falling at the endpoint

-reset_path
: Removes existing point-to-point exception information on the specified paths

-comment
: Allows the command to accept a comment string

-rise

Marks rising delays false, as measured on the path endpoint

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

Marks falling delays false, as measured on the path endpoint

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-setup

Marks setup (maximum) paths false

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-hold

Marks hold (minimum) paths false

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-from

Specifies start points (clocks, ports, pins, or cells) of disabled paths

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_from

Same as the -from option, except that the path must rise from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_from

Same as the -from option, except that the path must fall from the objects specified

attribute

type:	STRLIST
positional:	False

default:

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-through

A list of path throughpoints (port, pin, or leaf cell names)

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	through rise_through fall_through
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_through

Same as the -through option, but applies only to paths with a rising transition

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	through rise_through fall_through
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_through

Same as the -through option, but applies only to paths with a falling transition

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	through rise_through fall_through
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-to

Specifies end points (clocks, ports, pins, or cells) of paths disabled

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

Same as the -to option, but applies only to paths rising at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

Same as the -to option, but applies only to paths falling at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-reset_path

Removes existing point-to-point exception information on the specified paths

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-comment

Allows the command to accept a comment string

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_max_delay

-delay
: Specifies the value of the desired maximum delay for paths

-rise
: Specifies endpoint rising delays are constrained

-fall
: Specifies endpoint falling delays are constrained

-ignore_clock_latency
: Remove the clock tree latency from the timing caculations

-from
: Specifies a list of path start points (clocks, ports, pins, or cells)

-rise_from
: Same as the -from option, except that the path must rise from the objects specified

-fall_from
: Same as the -from option, except that the path must fall from the objects specified

-through
: A list of path throughpoints (port, pin, or leaf cell names)

-rise_through
: Same as the -through option, but applies only to paths with a rising transition

-fall_through
: Same as the -through option, but applies only to paths with a falling transition

-to
: Specifies a list of path end points (clocks, ports, pins, or cells)

-rise_to
: Same as the -to option, but applies only to paths rising at the endpoint

-fall_to
: Same as the -to option, but applies only to paths falling at the endpoint

-group_path
: Specifies the name of the group to which the paths are to be added

-reset_path
: Removes existing point-to-point exception information on the specified paths

-comment
: Allows the command to accept a comment string

-delay

Specifies the value of the desired maximum delay for paths

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay

simple case

There is currently no simple case.

-rise

Specifies endpoint rising delays are constrained

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

Specifies endpoint falling delays are constrained

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-ignore_clock_latency

Remove the clock tree latency from the timing caculations

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-from

Specifies a list of path start points (clocks, ports, pins, or cells)

attribute

type: STRLIST
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_from

Same as the -from option, except that the path must rise from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_from

Same as the -from option, except that the path must fall from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-through

A list of path throughpoints (port, pin, or leaf cell names)

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_through

Same as the -through option, but applies only to paths with a rising transition

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_through

Same as the -through option, but applies only to paths with a falling transition

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-to

Specifies a list of path end points (clocks, ports, pins, or cells)

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

Same as the -to option, but applies only to paths rising at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

Same as the -to option, but applies only to paths falling at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-group_path

Specifies the name of the group to which the paths are to be added

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-reset_path

Removes existing point-to-point exception information on the specified paths

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-comment

Allows the command to accept a comment string

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_min_delay

-delay
: Specifies the value of the desired minimum delay for paths

-rise
: Specifies endpoint rising delays are constrained

-fall
: Specifies endpoint falling delays are constrained

-ignore_clock_latency
: Remove the clock tree latency from the timing caculations

-from
: Specifies a list of path start points (clocks, ports, pins, or cells)

-rise_from
: Same as the -from option, except that the path must rise from the objects specified

-fall_from
: Same as the -from option, except that the path must fall from the objects specified

-through
: A list of path throughpoints (port, pin, or leaf cell names)

-rise_through
: Same as the -through option, but applies only to paths with a rising transition

-fall_through
: Same as the -through option, but applies only to paths with a falling transition

-to

Specifies a list of path end points (clocks, ports, pins, or cells)

-rise_to
: Same as the -to option, but applies only to paths rising at the endpoint

-fall_to
: Same as the -to option, but applies only to paths falling at the endpoint

-reset_path
: Removes existing point-to-point exception information on the specified paths

-comment
: Allows the command to accept a comment string

-delay

Specifies the value of the desired minimum delay for paths

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay

simple case

There is currently no simple case.

-rise

Specifies endpoint rising delays are constrained

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

Specifies endpoint falling delays are constrained

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-ignore_clock_latency

Remove the clock tree latency from the timing caculations

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-from

Specifies a list of path start points (clocks, ports, pins, or cells)

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_from

Same as the -from option, except that the path must rise from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_from

Same as the -from option, except that the path must fall from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-through

A list of path throughpoints (port, pin, or leaf cell names)

attribute

type: GROUPSTR
positional: False
default:

related_options

GroupType.TYPE_LEAST: from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_through

Same as the -through option, but applies only to paths with a rising transition

attribute

type: GROUPSTR
positional: False
default:

related_options

GroupType.TYPE_LEAST: from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_through

Same as the -through option, but applies only to paths with a falling transition

attribute

type: GROUPSTR
positional: False
default:

related_options

GroupType.TYPE_LEAST: from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-to

Specifies a list of path end points (clocks, ports, pins, or cells)

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

Same as the -to option, but applies only to paths rising at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

Same as the -to option, but applies only to paths falling at the endpoint

attribute

type:	STRLIST
positional:	False

default:

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-reset_path

Removes existing point-to-point exception information on the specified paths

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-comment

Allows the command to accept a comment string

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_multicycle_path

-path_multiplier

Specifies the number of cycles

-rise
: Specifies that rising path delays are affected by path_multiplier

-fall
: Specifies that falling path delays are affected by path_multiplier

-setup
: Specifies that path_multiplier is used for setup calculations

-hold
: Specifies that path_multiplier is used for hold calculations

-start
: Specifies the multicycle information is relative to the period of the start clock

-end
: Specifies the multicycle information is relative to the period of the end clock

-from
: Lists the names of clocks, ports, pins, or cells to use to find path startpoints

-rise_from
: Same as the -from option, except that the path must rise from the objects specified

-fall_from
: Same as the -from option, except that the path must fall from the objects specified

-through
: Lists the path throughpoints (port, pin, or leaf cell names)

-rise_through
: Same as the -through option, but applies only to paths with a rising transition

-fall_through
: Same as the -through option, but applies only to paths with a falling transition

-to
: Lists the names of clocks, ports, pins, or cells to use to find path startpoints

-rise_to
: Same as the -to option, but applies only to paths rising at the endpoint

-fall_to
: Same as the -to option, but applies only to paths falling at the endpoint

-reset_path
: Removes existing point-to-point exception information on the specified paths

-comment
: Allows the command to accept a comment string

-path_multiplier

Specifies the number of cycles

attribute

type:	INT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	path_multiplier

simple case

There is currently no simple case.

-rise

Specifies that rising path delays are affected by path_multiplier

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

Specifies that falling path delays are affected by path_multiplier

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-setup

Specifies that path_multiplier is used for setup calculations

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-hold

Specifies that path_multiplier is used for hold calculations

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-start

Specifies the multicycle information is relative to the period of the start clock

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	start end

simple case

There is currently no simple case.

-end

Specifies the multicycle information is relative to the period of the end clock

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	start end

simple case

There is currently no simple case.

-from

Lists the names of clocks, ports, pins, or cells to use to find path startpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_from

Same as the -from option, except that the path must rise from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_from

Same as the -from option, except that the path must fall from the objects specified

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-through

Lists the path throughpoints (port, pin, or leaf cell names)

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_through

Same as the -through option, but applies only to paths with a rising transition

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_through

Same as the -through option, but applies only to paths with a falling transition

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-to

Lists the names of clocks, ports, pins, or cells to use to find path startpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

Same as the -to option, but applies only to paths rising at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

Same as the -to option, but applies only to paths falling at the endpoint

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to
GroupType.TYPE_LEAST:	from rise_from fall_from through rise_through fall_through to rise_to fall_to

simple case

There is currently no simple case.

-reset_path

Removes existing point-to-point exception information on the specified paths

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-comment

Allows the command to accept a comment string

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

set_max_area

-ignore_tns
: Specifies that the area is prioritized above total negative slack (TNS)

-area
: Specifies the value to which the max_area attribute is to be set

---

-ignore_tns

Specifies that the area is prioritized above total negative slack (TNS)

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-area

Specifies the value to which the max_area attribute is to be set

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: area

simple case

There is currently no simple case.

create_generated_clock

-name
: name for the clock

-add
: add to the existing clock in source objects

-source_objects
: list of ports and/or pins

-source
: master source from which clock is generated

-master_clock
: master clock from which clock is generated

-divide_by
: frequency division factor

-multiply_by
: frequency multiplication factor

-duty_cycle
: high pulse width in percent for frequency multiply clocks

-invert

invert clock specification

-preinvert
pre invert clock specification

-edges
integer list of master clock edges

-edge_shift
float list of edge shifts

-combinational
clock source latency will derive from combinational paths only

-comment
comment string

-name

name for the clock

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_DEPENDENT:	name

simple case

There is currently no simple case.

-add

add to the existing clock in source objects

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-source_objects

list of ports and/or pins

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	source_objects

simple case

There is currently no simple case.

-source

master source from which clock is generated

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	source

simple case

There is currently no simple case.

-master_clock

master clock from which clock is generated

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-divide_by

frequency division factor

attribute

type:	INT
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	divide_by multiply_by edges combinational
GroupType.TYPE_CONFLICT:	divide_by multiply_by edges

simple case

There is currently no simple case.

-multiply_by

frequency multiplication factor

attribute

type:	INT
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	divide_by multiply_by edges combinational
GroupType.TYPE_CONFLICT:	divide_by multiply_by edges
GroupType.TYPE_DEPENDENT:	multiply_by

simple case

There is currently no simple case.

-duty_cycle

high pulse width in percent for frequency multiply clocks

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-invert

invert clock specification

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-preinvert

pre invert clock specification

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-edges

integer list of master clock edges

attribute

type:	INTLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	divide_by multiply_by edges combinational
GroupType.TYPE_CONFLICT:	divide_by multiply_by edges
GroupType.TYPE_DEPENDENT:	edges

simple case

There is currently no simple case.

-edge_shift

float list of edge shifts

attribute

type:	FLOATLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-combinational

clock source latency will derive from combinational paths only

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	divide_by multiply_by edges combinational

simple case

There is currently no simple case.

-comment

comment string

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_clock_latency

-delay
: clock latency

-object_list
: list of clocks, pins or ports

-clock
: specify reference clock

-source
: specify clock rise and fall source latency

-rise
: specify clock rise latency

-fall
: specify clock fall latency

-min
: specify clock rise and fall min condition latency

-max
: specify clock rise and fall max condition latency

-early
: specify early clock source latency

-late
: specify late clock source latency

-dynamic

clock jitter

-delay

clock latency

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay

simple case

There is currently no simple case.

-object_list

list of clocks, pins or ports

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	object_list

simple case

There is currently no simple case.

-clock

specify reference clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-source

specify clock rise and fall source latency

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_DEPENDENT:	source
GroupType.TYPE_DEPENDENT:	source
GroupType.TYPE_DEPENDENT:	source

simple case

There is currently no simple case.

-rise

specify clock rise latency

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

specify clock fall latency

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-min

specify clock rise and fall min condition latency

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

specify clock rise and fall max condition latency

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-early

specify early clock source latency

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-late

specify late clock source latency

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-dynamic

clock jitter

attribute

type:	FLOAT
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_clock_uncertainty

-uncertainty

uncertainty of clock network

-object_list
: list of clocks, pins or ports

-from
: specify inter-clock uncertainty source clock

-rise_from
: specify inter-clock uncertainty source clock

-fall_from
: specify inter-clock uncertainty source clock

-to
: specify inter-clock uncertainty destination clock

-rise_to
: specify inter-clock uncertainty destination clock

-fall_to
: specify inter-clock uncertainty destination clock

-rise
: specify inter-clock uncertainty for rising clock edge

-fall
: specify inter-clock uncertainty for falling clock edge

-setup
: specify clock uncertainty for setup checks

-hold
: specify clock uncertainty for hold checks

-uncertainty

uncertainty of clock network

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	uncertainty

simple case

There is currently no simple case.

-object_list

list of clocks, pins or ports

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-from

specify inter-clock uncertainty source clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-rise_from

specify inter-clock uncertainty source clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-fall_from

specify inter-clock uncertainty source clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-to

specify inter-clock uncertainty destination clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

specify inter-clock uncertainty destination clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

specify inter-clock uncertainty destination clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-rise

specify inter-clock uncertainty for rising clock edge

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

specify inter-clock uncertainty for falling clock edge

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-setup

specify clock uncertainty for setup checks

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-hold

specify clock uncertainty for hold checks

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

set_clock_transition

-transition
transition time of clock pins

-clock_list
list of clocks

-rise
: specify clock rising transition

-fall
: specify clock falling transition

-min
: specify clock rise and fall min transition

-max
: specify clock rise and fall max transition

-transition

transition time of clock pins

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	transition

simple case

There is currently no simple case.

-clock_list

list of clocks

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	clock_list

simple case

There is currently no simple case.

-rise

specify clock rising transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

specify clock falling transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

specify clock rise and fall min transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

specify clock rise and fall max transition

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_wire_load_model

-name
: name of wire load model

-object_list
: list of ports, designs, cells

-library
: library name

-min
: specify the minimum wire load model

-max
: specify the maximum wire load model

-name

name of wire load model

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	name

simple case

There is currently no simple case.

-object_list

list of ports, designs, cells

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-library

library name

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-min

specify the minimum wire load model

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

specify the maximum wire load model

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_wire_load_mode

-mode_name
: name of mode: top, enclosed or segmented

-mode_name

name of mode: top, enclosed or segmented

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	mode_name

simple case

There is currently no simple case.

set_wire_load_selection_group

-group_name
: selection group name

-object_list
: not support now

-library
: library name

-min

specify the selection group for min condition

-max

specify the selection group for max condition

-group_name

selection group name

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	group_name

simple case

There is currently no simple case.

-object_list

not support now

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-library

library name

attribute

type:	STRLIST
positional:	False

default:

related_options

simple case

There is currently no simple case.

-min

specify the selection group for min condition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

specify the selection group for max condition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

set_clock_gating_check

-object_list
list of cells, pins, clocks, and/or designs

-setup
setup margin

-hold

hold margin

-rise
specify rise setup/hold

-fall
specify fall setup/hold

-high
specify clock non-controlling value

-low
specify clock non-controlling value

-object_list

list of cells, pins, clocks, and/or designs

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-setup

setup margin

attribute

type:	FLOAT
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	setup hold high low

simple case

There is currently no simple case.

-hold

hold margin

attribute

type: FLOAT
positional: False
default:

related_options

GroupType.TYPE_LEAST: setup hold high low

simple case

There is currently no simple case.

-rise

specify rise setup/hold

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

specify fall setup/hold

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-high

specify clock non-controlling value

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	setup hold high low
GroupType.TYPE_CONFLICT:	high low

simple case

There is currently no simple case.

-low

specify clock non-controlling value

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	setup hold high low
GroupType.TYPE_CONFLICT:	high low

simple case

There is currently no simple case.

set_sense

-type
: specify type of sense, currently only support 'clock'

-pins
: specify list of pins

-clocks
: specify list of reference clocks

-pulse
not support now

-positive
specify positive clock sense

-negative
specify negative clock sense

-stop_propagation
stop clock propagation from specified pins along clock and data

---

-type

specify type of sense, currently only support 'clock'

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-pins

specify list of pins

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: pins

simple case

There is currently no simple case.

-clocks

specify list of reference clocks

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-pulse

not support now

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	positive negative stop_propagation pulse

simple case

There is currently no simple case.

-positive

specify positive clock sense

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	positive negative stop_propagation pulse
GroupType.TYPE_LEAST:	positive negative stop_propagation

simple case

There is currently no simple case.

-negative

specify negative clock sense

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	positive negative stop_propagation pulse
GroupType.TYPE_LEAST:	positive negative stop_propagation

simple case

There is currently no simple case.

-stop_propagation

stop clock propagation from specified pins along clock and data

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	positive negative stop_propagation pulse
GroupType.TYPE_LEAST:	positive negative stop_propagation

simple case

There is currently no simple case.

set_data_check

-clock
clock

-check_value
setup or hold time

-from
: from pin or port

-rise_from
: rise from pin or port

-fall_from
: fall from pin or port

-to
: to pin or port

-rise_to
: rise to pin or port

-fall_to
: fall to pin or port

-setup
: specify setup data checks

-hold
: specify hold data checks

-clock

clock

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-check_value

setup or hold time

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	check_value

simple case

There is currently no simple case.

-from

from pin or port

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from
GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-rise_from

rise from pin or port

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from
GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-fall_from

fall from pin or port

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	from rise_from fall_from
GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-to

to pin or port

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	to rise_to fall_to
GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

rise to pin or port

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	to rise_to fall_to
GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

fall to pin or port

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	to rise_to fall_to
GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-setup

specify setup data checks

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-hold

specify hold data checks

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

set_disable_timing

-object_list
list of cells, pins, ports

-from
name of pin on specified cell

-to
name of pin on specified cell

-object_list

list of cells, pins, ports

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

-from

name of pin on specified cell

attribute

type: STRING
positional: False

default:

related_options

GroupType.TYPE_DEPENDENT:	from

simple case

There is currently no simple case.

-to

name of pin on specified cell

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_DEPENDENT:	to

simple case

There is currently no simple case.

set_clock_groups

-name
Name for clock grouping

-comment
comment string

-group
List of clocks

-physically_exclusive
Specify exclusive clock groups

-logically_exclusive
Specify exclusive clock groups

-asynchronous
Specify asynchronous clock groups

-allow_paths

Keep the asynchronous paths as constrained

-name

Name for clock grouping

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-comment

comment string

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-group

List of clocks

attribute

type: GROUPSTR
positional: False
default:

related_options

GroupType.TYPE_LEAST: group

simple case

There is currently no simple case.

-physically_exclusive

Specify exclusive clock groups

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	physically_exclusive logically_exclusive asynchronous
GroupType.TYPE_CONFLICT:	physically_exclusive logically_exclusive asynchronous
GroupType.TYPE_CONFLICT:	physically_exclusive logically_exclusive allow_paths

simple case

There is currently no simple case.

-logically_exclusive

Specify exclusive clock groups

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	physically_exclusive logically_exclusive asynchronous
GroupType.TYPE_CONFLICT:	physically_exclusive logically_exclusive asynchronous
GroupType.TYPE_CONFLICT:	physically_exclusive logically_exclusive allow_paths

simple case

There is currently no simple case.

-asynchronous

Specify asynchronous clock groups

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	physically_exclusive logically_exclusive asynchronous
GroupType.TYPE_CONFLICT:	physically_exclusive logically_exclusive asynchronous
GroupType.TYPE_DEPENDENT:	asynchronous

simple case

There is currently no simple case.

-allow_paths

Keep the asynchronous paths as constrained

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	physically_exclusive logically_exclusive allow_paths

simple case

There is currently no simple case.

set_min_pulse_width

-value
: minimum pulse width constraint value

-object_list
: list of pins and/or clocks

-low
: set only low min pulse width constraint

-high
: set only high min pulse width constraint

-value

minimum pulse width constraint value

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	value

simple case

There is currently no simple case.

-object_list

list of pins and/or clocks

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	object_list

simple case

There is currently no simple case.

-low

set only low min pulse width constraint

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-high

set only high min pulse width constraint

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

---

set_max_time_borrow

-delay_value
: time borrowing limit

-object_list
: list of clocks, cells or pins

-delay_value

time borrowing limit

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay_value

simple case

There is currently no simple case.

-object_list

list of clocks, cells or pins

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	object_list

simple case

There is currently no simple case.

set_wire_load_min_block_size

-size
: minimum block size

-size

minimum block size

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	size

simple case

There is currently no simple case.

set_ideal_network

-object_list
: list of pins or ports or nets

-no_propagate
: Don't propagate across logic gates

-dont_care_placement
: Optimize placement of ideal_network for wire-length

-object_list

list of pins or ports or nets

attribute

type:	COLLECTION
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	object_list

simple case

There is currently no simple case.

-no_propagate

Don't propagate across logic gates

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-dont_care_placement

Optimize placement of ideal_network for wire-length

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_ideal_latency

-delay
: ideal latency

-object_list
: list of pins or ports

-rise
: specify ideal network rise latency

-fall
: specify ideal network fall latency

-min
: specify ideal network rise and fall min condition latency

-max
: specify ideal network rise and fall max condition latency

-delay

ideal latency

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	delay

simple case

There is currently no simple case.

-object_list

list of pins or ports

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

-rise

specify ideal network rise latency

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

specify ideal network fall latency

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

specify ideal network rise and fall min condition latency

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

specify ideal network rise and fall max condition latency

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

set_ideal_transition

-transition_time
ideal transition time

-object_list
list of pins or ports

-rise
specify ideal network rise transition

-fall
specify ideal network fall transition

-min
specify ideal network rise and fall min condition transition

-max
specify ideal network rise and fall max condition transition

-transition_time

ideal transition time

attribute

type: FLOAT

positional: True
default:

related_options

GroupType.TYPE_LEAST: transition_time

simple case

There is currently no simple case.

-object_list

list of pins or ports

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

-rise

specify ideal network rise transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-fall

specify ideal network fall transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-min

specify ideal network rise and fall min condition transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

-max

specify ideal network rise and fall max condition transition

attribute

type: BOOL
positional: False
default:

related_options

simple case

There is currently no simple case.

set_propagated_clock

-object_list
list of clocks, pins or ports

-object_list

list of clocks, pins or ports

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_LEAST: object_list

simple case

There is currently no simple case.

set_resistance

-value
resistance value

-net_list
list of nets

-min
specify the minimum resistance value

-max
specify the maximum resistance value

-value

resistance value

attribute

type: FLOAT
positional: True
default:

related_options

GroupType.TYPE_LEAST: value

simple case

There is currently no simple case.

-net_list

list of nets

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	net_list

simple case

There is currently no simple case.

-min

specify the minimum resistance value

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

specify the maximum resistance value

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

set_timing_derate

-derate_value
: timing derate factor

-object_list
: list of cells and/or designs

-early
: specify the minimum derating factor

-late
: specify the maximum derating factor

-rise
: specify derating factor for rise delay

-fall
: specify derating factor for fall delay

-min
: specify derating factor for min delay

-max
: specify derating factor for max delay

-clock
: specify the derating factors are to apply to clock paths only

-data
: specify the derating factors are to apply to data paths only

-net_delay
: specify the derating factors are to apply to nets only

-cell_delay
: specify the derating factors are to apply to cell delays only

-cell_check
: specify the derating factors are to apply to cell timing checks only

---

-derate_value

timing derate factor

attribute

type:	FLOAT
positional:	True
default:	

related_options

GroupType.TYPE_LEAST: derate_value

simple case

There is currently no simple case.

-object_list

list of cells and/or designs

attribute

type: STRLIST
positional: True
default:

related_options

GroupType.TYPE_CONFLICT: object_list

simple case

There is currently no simple case.

-early

specify the minimum derating factor

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_LEAST: early late

simple case

There is currently no simple case.

-late

specify the maximum derating factor

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	early late

simple case

There is currently no simple case.

-rise

specify derating factor for rise delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-fall

specify derating factor for fall delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-min

specify derating factor for min delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-max

specify derating factor for max delay

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-clock

specify the derating factors are to apply to clock paths only

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	cell_check clock
GroupType.TYPE_CONFLICT:	cell_check clock

simple case

There is currently no simple case.

-data

specify the derating factors are to apply to data paths only

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	cell_check data
GroupType.TYPE_CONFLICT:	cell_check data

simple case

There is currently no simple case.

-net_delay

specify the derating factors are to apply to nets only

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	cell_check net_delay
GroupType.TYPE_CONFLICT:	cell_check net_delay

simple case

There is currently no simple case.

-cell_delay

specify the derating factors are to apply to cell delays only

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	cell_check cell_delay
GroupType.TYPE_CONFLICT:	cell_check cell_delay

simple case

There is currently no simple case.

-cell_check

specify the derating factors are to apply to cell timing checks only

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	cell_check cell_delay
GroupType.TYPE_CONFLICT:	cell_check net_delay
GroupType.TYPE_CONFLICT:	cell_check clock
GroupType.TYPE_CONFLICT:	cell_check data
GroupType.TYPE_CONFLICT:	cell_check clock
GroupType.TYPE_CONFLICT:	cell_check data
GroupType.TYPE_CONFLICT:	cell_check net_delay
GroupType.TYPE_CONFLICT:	cell_check cell_delay

simple case

There is currently no simple case.

group_path

-name
name of group

-comment
comment string

-weight

cost function weight

-critical_range
delay range to include in cost function

-from
list of path startpoints

-rise_from
list of path startpoints

-fall_from
list of path startpoints

-through
list of path through points

-rise_through
list of path through points

-fall_through
list of path through points

-to
list of path endpoints

-rise_to
list of path endpoints

-fall_to
list of path endpoints

-default
move paths into the default group

-name

name of group

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	name default
GroupType.TYPE_LEAST:	name default

simple case

There is currently no simple case.

-comment

comment string

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

-weight

cost function weight

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-critical_range

delay range to include in cost function

attribute

type: FLOAT
positional: False
default:

related_options

simple case

There is currently no simple case.

-from

list of path startpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-rise_from

list of path startpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-fall_from

list of path startpoints

attribute

type:	STRLIST

positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	from rise_from fall_from

simple case

There is currently no simple case.

-through

list of path through points

attribute

type: GROUPSTR
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	through rise_through fall_through

simple case

There is currently no simple case.

-rise_through

list of path through points

attribute

type: GROUPSTR
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	through rise_through fall_through

simple case

There is currently no simple case.

-fall_through

list of path through points

attribute

type:	GROUPSTR
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	through rise_through fall_through

simple case

There is currently no simple case.

-to

list of path endpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-rise_to

list of path endpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-fall_to

list of path endpoints

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	to rise_to fall_to

simple case

There is currently no simple case.

-default

move paths into the default group

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	name default
GroupType.TYPE_LEAST:	name default

simple case

There is currently no simple case.

update_timing

-full
: global update

-full

global update

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

characterize

-cell_list
: hierarchical cells to characterize

-no_timing
: don't characterize timing

-constraint
: characterize constraints

-connection
: characterize connections

-power
: characterize power

-cell_list

hierarchical cells to characterize

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_LEAST:	cell_list

simple case

There is currently no simple case.

-no_timing

don't characterize timing

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-constraint

characterize constraints

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-connection

characterize connections

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-power

characterize power

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

write_sdc

-nosplit
: do not split lines when column fields overflow

-version
: Default is latest: Values: latest, 1.0 , 1.1, 1.2

-design
: Corresponding design of sdc

-file_name
: Output file name

-nosplit

do not split lines when column fields overflow

attribute

type:	BOOL
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-version

Default is latest: Values: latest, 1.0 , 1.1, 1.2

attribute

type:	FLOAT
positional:	False
default:	1.0

related_options

simple case

There is currently no simple case.

-design

Corresponding design of sdc

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-file_name

Output file name

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

remove_propagated_clock

-all
: Removes propagated clocking from all objects in the current scenario.

-object_list
: Specifies the clocks, ports, or pins from which to remove the propagated clock specification.

-all

Removes propagated clocking from all objects in the current scenario.

attribute

type:	BOOL
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	all object_list

simple case

There is currently no simple case.

-object_list

Specifies the clocks, ports, or pins from which to remove the propagated clock specification.

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_CONFLICT:	all object_list

simple case

There is currently no simple case.

set_disable_clock_gating_check

-object_list
: Specifies the cells and pins for which the clock-gating check is to be disabled.

-object_list

Specifies the cells and pins for which the clock-gating check is to be disabled.

attribute

type:	STRLIST
positional:	True
default:	

related_options

simple case

There is currently no simple case.

set_operating_conditions

-analysis_type
: analysis type

-library
: library to search

-max
: max operating condition name

-min
: min operating condition name

-max_library
: library containing max operating conditions

-min_library
: library containing min operating conditions

-max_phys
: name of max phys tech op condition

-min_phys
: name of min phys tech op condition

-object_list
: port/cell objects

-condition
: single operating condition name

-analysis_type

analysis type

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_TOGETHER:	analysis_type library

simple case

There is currently no simple case.

-library

library to search

attribute

type:	STRLIST
positional:	False
default:	

related_options

GroupType.TYPE_TOGETHER:	analysis_type library

simple case

There is currently no simple case.

-max

max operating condition name

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_DEPENDENT:	max
GroupType.TYPE_CONFLICT:	max condition

GroupType.TYPE_DEPENDENT:	max

simple case

There is currently no simple case.

-min

min operating condition name

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_CONFLICT:	min condition
GroupType.TYPE_DEPENDENT:	min

simple case

There is currently no simple case.

-max_library

library containing max operating conditions

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-min_library

library containing min operating conditions

attribute

type: STRLIST
positional: False
default:

related_options

simple case

There is currently no simple case.

-max_phys

name of max phys tech op condition

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_TOGETHER: max_phys min_phys

simple case

There is currently no simple case.

-min_phys

name of min phys tech op condition

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_TOGETHER: max_phys min_phys

simple case

There is currently no simple case.

-object_list

port/cell objects

attribute

type:	STRLIST
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-condition

single operating condition name

attribute

type:	STRING
positional:	True
default:	

related_options

GroupType.TYPE_CONFLICT:	max condition
GroupType.TYPE_CONFLICT:	min condition

simple case

There is currently no simple case.

set_units

-time
: Time unit in sec

-capacitance
: Capacitance unit in farad

-current
: Current unit in ampere

-voltage
: Voltage unit in volt

-resistance
: Resistance unit in ohm

-power

Power unit in watt

-time

Time unit in sec

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: time capacitance current voltage resistance power

simple case

There is currently no simple case.

-capacitance

Capacitance unit in farad

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: time capacitance current voltage resistance power

simple case

There is currently no simple case.

-current

Current unit in ampere

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: time capacitance current voltage resistance power

simple case

There is currently no simple case.

-voltage

Voltage unit in volt

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: time capacitance current voltage resistance power

simple case

There is currently no simple case.

-resistance

Resistance unit in ohm

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: time capacitance current voltage resistance power

simple case

There is currently no simple case.

-power

Power unit in watt

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	time capacitance current voltage resistance power

simple case

There is currently no simple case.

set_hierarchy_separator

-separator
separator in hierarachy

-separator

separator in hierarachy

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_LEAST:	separator

simple case

There is currently no simple case.

Synthesis 命令

多目标优化逻辑综合引擎，支持RTL到工艺映射（Technology Mapping）的全流程处理。集成AI驱动的面积-时序-功耗权 衡优化算法（Area-Timing-Power Trade-off），支持多电压域（Multi-Voltage）设计与电源门控（Power Gating） 插入。采用并行化架构实现千万门级设计的快速编译，包含层次化综合（Hierarchical Synthesis）、跨层次边界优化 （Cross-Boundary Optimization）及DFT结构自动推断（DFT Auto-Insertion），输出DFT兼容的门级网表。

- ungroup
- group
- write_il

- add_tieoffs
- resyn

ungroup

-prefix
: prefix to use in naming cells

-cell_list
: list of cells to be ungrouped

-all
: specifies whether to expand all the cells of the module

-flatten
: expand all levels of hierarchy

-start_level
: flatten cells from level: Value >= 1

-prefix

prefix to use in naming cells

attribute

type:	STRING
positional:	False
default:	

related_options

simple case

There is currently no simple case.

-cell_list

list of cells to be ungrouped

attribute

type:	STRLIST
positional:	True
default:	

related_options

GroupType.TYPE_CONFLICT: cell_list all

simple case

There is currently no simple case.

-all

specifies whether to expand all the cells of the module

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: cell_list all

simple case

There is currently no simple case.

-flatten

expand all levels of hierarchy

attribute

type: BOOL
positional: False
default:

related_options

GroupType.TYPE_CONFLICT: flatten start_level

simple case

There is currently no simple case.

-start_level

flatten cells from level: Value >= 1

attribute

type: INT
positional: False
default:

related_options

GroupType.TYPE_CONFLICT:	flatten start_level

simple case

There is currently no simple case.

group

-cell_set
cells to be included in the group

-design_name
name of design created for new hierarchy

-cell_name
name of cell created for new hierarchy

-cell_set

cells to be included in the group

attribute

type: STRLIST
positional: True
default:

related_options

simple case

There is currently no simple case.

-design_name

name of design created for new hierarchy

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: design_name

simple case

There is currently no simple case.

-cell_name

name of cell created for new hierarchy

attribute

type: STRING
positional: False
default:

related_options

GroupType.TYPE_LEAST: cell_name

simple case

There is currently no simple case.

write_il

-file
specifies the file path of rtlil output'

-file

specifies the file path of rtlil output'

attribute

type: STRING
positional: False
default:

related_options

simple case

There is currently no simple case.

add_tieoffs

-high
cell for constant 1's (default searches for cell)

-low
cell for constant 0's (default searches for cell)

-design
specifies design/subdesign to insert constants (default for current_design)

-high

cell for constant 1's (default searches for cell)

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_TOGETHER:	high low

simple case

There is currently no simple case.

-low

cell for constant 0's (default searches for cell)

attribute

type:	STRING
positional:	False
default:	

related_options

GroupType.TYPE_TOGETHER:	high low

simple case

There is currently no simple case.

-design

specifies design/subdesign to insert constants (default for current_design)

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

resyn

-design
: design to be re-synthesis; [default=current_design]

-target
: re-syn target: timing, area; [default=timing]

-level
: level of target: timing={0,1,2,3}, area={0,1,2}; [default=0]

-design

design to be re-synthesis; [default=current_design]

attribute

type:	STRING
positional:	True
default:	

related_options

simple case

There is currently no simple case.

-target

re-syn target: timing, area; [default=timing]

attribute

type:	STRING
positional:	False

default:

related_options

GroupType.TYPE_TOGETHER:	target level

simple case

There is currently no simple case.

-level

level of target: timing={0,1,2,3}, area={0,1,2}; [default=0]

attribute

type:	INT
positional:	False
default:	

related_options

GroupType.TYPE_TOGETHER:	target level

simple case

There is currently no simple case.