SpyGlass® Physical Advanced

Early Implementation Feasibility Analysis for SOC and Complex IPs

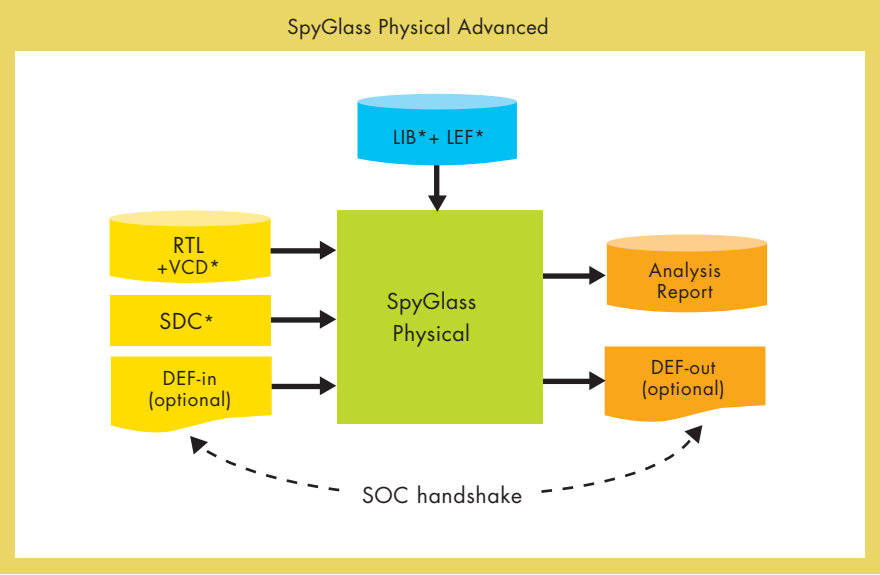
SoC/IP design teams cannot start physical implementation feasibility analysis early in the cycle due to inability to handle incomplete RTL efficiently. This also causes the physical partitions late in the design cycle and any inefficient partitioning decision can elongate SoC/IP design cycle considerably. The SpyGlass® Physical Advanced solution provides RTL leads and SoC integrators a rich visualization platform to evaluate multiple floorplan configurations, analyze implementation feasibility, enable appropriate IP selection, create physical partitions and generate implementation guidance for IP and SoC implementation.

The Problem

- Schedules are not predictable – Complex power, timing and physical requirements continue to change all the way to tape out, resulting in schedule delays
- Delayed time to market - Design closure requiring iterations with front-end designers adds weeks to months to the design schedule
- Higher cost – The later the problems are detected in the design cycle, the more expensive it gets to correct
- Debugging takes expertise and time – Debugging the design on deeper aspects related to timing, power and congestion at the gate level burdens both front-end and back-end teams

The Atrenta Solution - SpyGlass Physical Advanced

- Enables critical area, power, timing and congestion trade-offs early in the design cycle
- Provides rich visualization, interactivity and reporting to determine physical feasibility
- Provides quick and accurate what-if analysis of architecture and micro-architecture both at the IP and SoC levels
- Provides accurate and fast what-if analysis of multiple floorplan configurations
- Generates floorplan and constraints guidance for IP and SoC development
- Provides partitioning of physical blocks to meet SoC targets quickly
- Supports connectivity abstractions such as interface definitions and transaction specifications
- Provides fast analysis to enable multiple iterations within a day

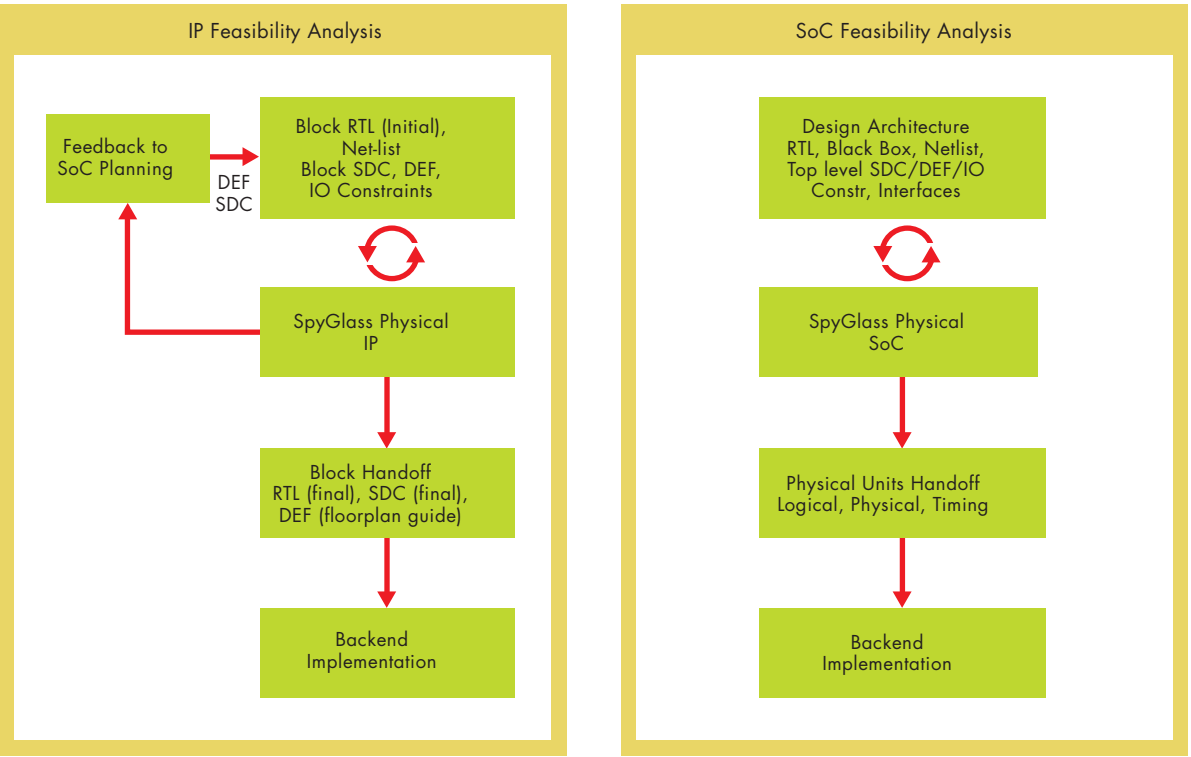


ATRENTA
The SoC Realization Company

SpyGlass Physical Advanced Methodology

The SpyGlass Physical Advanced solution allows SoC architects/integrators analyze physical implementation feasibility of SoC. It also allows IP leads to tradeoff-analysis of IPs with respect to the target SoC physical constraints which enables RTL leads to select an optimum floorplan and generate physical guidance for SoC architects.

As SoC integration begins at RTL, the SpyGlass-Physical Advanced solution helps meet SoC performance targets in concurrent block/SoC development scenarios. SoC integrators analyze if the design is pad or core limited, determine the optimal I/O assignment, make micro-architectural decisions like cloning or splitting modules to improve timing/congestion, make efficient IP selection, and generate an efficient floorplan that meets timing, power and congestion goals. Lastly, SoC integrators generate implementation guidance for backend tools.



The Atrenta Difference - SpyGlass Physical Advanced

- Provides fast analysis to enable multiple iterations within a day
- Provides an early analysis even with incomplete RTL or constraints
- Provides a comprehensive floorplanning and macro placement
- Provides a rich set of visualization, reports and metrics
- Supports what-if analysis: provides floorplan alternatives to meet SoC goals
- Makes existing flows more efficient and significantly reduces design closure time physical guidance for downstream implementation tools for faster closure

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Atrenta is a leading provider of SoC Realization solutions for the semiconductor and electronic systems industries. As one of the largest private electronic design automation companies, Atrenta provides a comprehensive SoC Realization solution that delivers higher quality semiconductor IP, predictable design coherence, automated chip assembly and improved implementation readiness. With over 170 customers, including 19 of the top 20 semiconductor and consumer electronics companies, Atrenta enables the most complex SoC designs in the world. Atrenta, the SoC Realization Company.

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