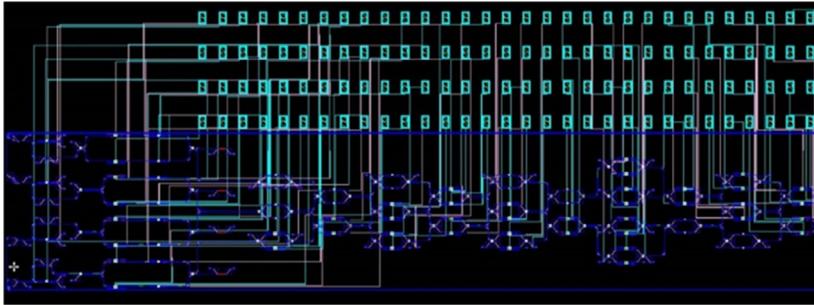


LightSuite™ Photonic Compiler



LightSuite Photonic Compiler is the first integrated photonics layout automation tool that simultaneously implements both the photonic and electrical domains, producing a Correct-by-Calibre® layout in minutes.

Integrated Photonic Layout Automation

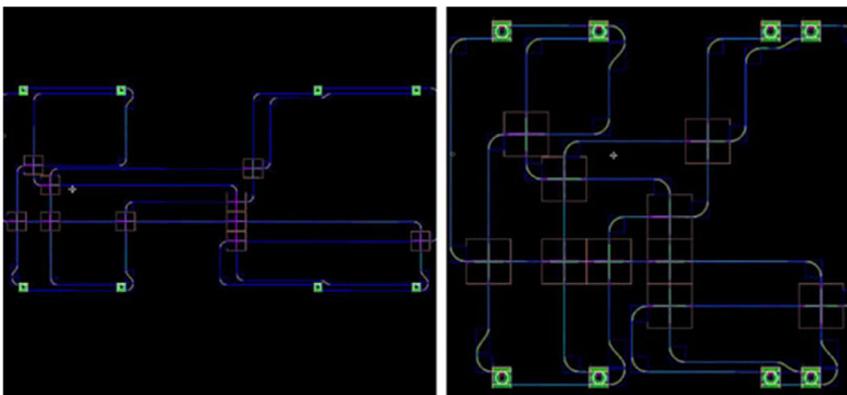
LightSuite Photonic Compiler provides significant productivity improvement with the ability to implement a large, integrated photonic layout in minutes that normally would take weeks to manually create.

Enables “What if” Layouts

Today’s short design schedules drive engineers to quickly finish the layout and then tape out the design. They do not have time to create “what if” layouts to explore the best design. LightSuite Photonic Compiler enables “what if” layouts and to change placement to quickly get a new layout in minutes. The resulting layout is Correct-by-Calibre.

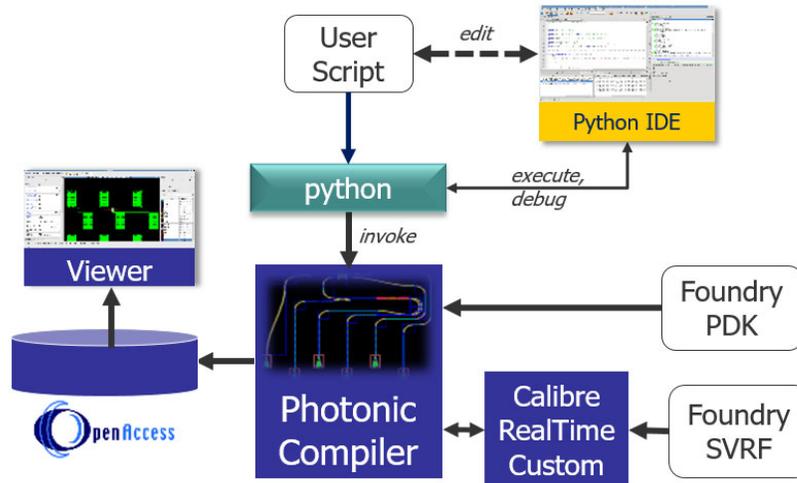
Design Flows

The LightSuite Photonic Compiler flow begins with a placed design. Engineers can define placement using a Python script or by schematic. Then, the tool routes both the waveguides and corresponding electrical nets. All the flow steps are verified by Calibre RealTime®. When using an initial placement from the schematic-driven layout flow, the initial design size is not important, because LightSuite Photonic Compiler uses Calibre RealTime to compact the layout.



FEATURES AND BENEFITS:

- Electro-optical layout automation
- Places and routes both electronic and optical components
- Schematic or script driven flows
- Correct-by-Calibre
- Enables “what if” layouts
- Works in any OpenAccess layout flow
- Built on standards
 - OpenAccess
 - Python
- PDKs are available from multiple photonic foundries in these formats:
 - iPDK
 - Mentor PDK formats



The LightSuite Photonic Compiler design flow.

Script-Driven Design

The engineer can control LightSuite Photonic Compiler using a Python script. If desired, the engineer can interact with the tool using a Python IDE. As the design is being created, Calibre RealTime is called at each step to verify DRC correctness. The engineer can visually monitor the layout progress by using the viewer. The completed design is stored in OpenAccess format.

Correct-by-Calibre

LightSuite Photonic Compiler produces a Correct-by-Calibre design. With each placement and route move, Calibre RealTime is called to verify that the placement or route is DRC-correct. Photonic design rules must be written using equation-based design rules in SVRF. If the photonic rules are not expressed as eqDRC-based rules, there will be many false DRC violations.

Interoperability and Standards

LightSuite Photonic compiler can be integrated into any OpenAccess-based flow. The engineer can use OpenAccess design data for initial placement. The completed design is saved in OpenAccess format which

can be read into any OpenAccess-based layout editor. The tool supports Python for its scripting language, which is the language of choice for many photonic engineers.

Foundry Support

LightSuite Photonic Compiler supports both Mentor formatted PDKs and the industry standard, interoperable iPDK. PDKs are currently available from multiple photonic foundries.

Requirements

LightSuite Photonic Compiler is supported on Linux®. The tool requires a license of Calibre RealTime Custom. A Python-based IDE is optional.

For the latest product information, contact us at: www.mentor.com

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