

*SoftJin Infotech Pvt Ltd.,
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SoftJin, an Indian EDA company, releases free source code of GDSII and OASIS data exchange libraries and tools

SoftJin has released a free suite of IC design layout data exchange libraries and tools for use by IC designers and EDA product companies. This includes GDSII and OASIS readers, writers and GDSII-to-OASIS translator, in source code form. The software suite named *Anuvad*¹ includes one of the earliest available tools to handle the OASIS format, and the only one available for free use in source code format.

The volume of the data to represent the IC design during the layout design phase has exploded in size, with enormous growth in the size and complexity of the ICs as well as nanometer accurate manufacturing processes. GDSII has been the industry standard format for representing the Layout data and exchanging layout data between chip design teams, silicon foundries and mask companies. OASIS (Open Artwork System Interchange Standard), promoted by Semiconductor Equipment and Materials International (SEMI), is a new and much more compact format that is slated to replace GDSII as the standard data format used for exchanging layout data.

SoftJin's *Anuvad* software suite contains essential building blocks that facilitate early adopters to migrate towards OASIS format. The GDSII and OASIS reader and writer libraries enable users to develop their own post layout analysis, editing, mask data preparation and other DFY/DFM tools.

In addition, a suite of utilities developed using the GDSII and OASIS libraries are also released in source code form. Among these, the most significant is the GDSII to OASIS converter that has been tested and benchmarked with real life layout data from several semiconductor companies. It has been observed that this tool provides an average of 20X compression while converting layout data from GDSII format into OASIS format. Apart from the significant value addition these utilities bring on their own, the source code release of these utilities demonstrates the way to use the GDSII/OASIS libraries.

SoftJin has released the source code of the entire *Anuvad* software for free download from its website (<http://www.softjin.com>). The license enables users to use, enhance and modify the source code to develop their own tools and utilities for internal as well as commercial use. There is no restriction on source code redistribution internally. There is no restriction on the object code distribution internally or externally. However, the source code redistribution externally is restricted only through the common mailing list meant for *Anuvad* developers.

“For early adoption of OASIS and smooth transition of GDSII legacy to OASIS, the tool developers should be able to work on the high value added tools which would exploit the

¹ *Anuvad* means *translation* in Sanskrit, the oldest Indian language.

native constructs of OASIS rather than using OASIS simply as a compact form of GDSII. For this, the tool developers have to focus on fundamental changes in the in-core array and hierarchical data representation and parallel algorithms working on them, rather than spend energies on the readers, writers, translators and viewers for GDSII and OASIS. *Anuvad* is being released with the objective of providing jumpstart to OASIS based tools development by commoditizing the basic infrastructural libraries for GDSII and OASIS by making them freely available in source code format” said Mr. Kamal Aggarwal, Vice President, Marketing and Strategy at SoftJin.

As a customized EDA software development services company, SoftJin also offers to provide customization and enhancement services on top of these tools for specific requirements of customers.

“SoftJin has been providing customized EDA tool development services to semiconductor and EDA companies across the design flow, including post layout Mask data preparation tools. The *Anuvad* suite’s release shall complement SoftJin’s customized EDA software development service offerings in the physical design automation, post-layout data processing and mask data preparation domain. Specifically, our aim is to be the leading player in providing customized post-layout tools as well as point tools based on OASIS. We have the capability to develop the tools that use the native features of OASIS format, thus extracting the maximum data size reduction, efficient data handling and other benefits enabled by the OASIS format”, said Mr Nachiket Urdhwareshe, CEO of SoftJin.

SoftJin has already developed various tools in the physical design and mask data automation area for its customers thereby gaining in-depth expertise in layout data formats, techniques to handle huge data and to perform fast geometrical and boolean operations. This has led the company to develop and contribute such a suite as a capability demonstrator. The company plans to develop and release several tools and libraries in this domain within the next six months.

About SoftJin

Founded in 2000 and headquartered in Bangalore (India), SoftJin is an EDA software development services company that develops EDA tools for the specific requirements of semiconductor and EDA companies. SoftJin’s wide experience of customized EDA tool development, tool enhancement and design flow development services provide unique advantages of enhanced EDA tool development capability, flexible capacity and cost savings to its customers. SoftJin has a proven track record of executing complex, high performance EDA software development projects across the spectrum of electronic design flow.

More information about SoftJin is available at www.softjin.com