

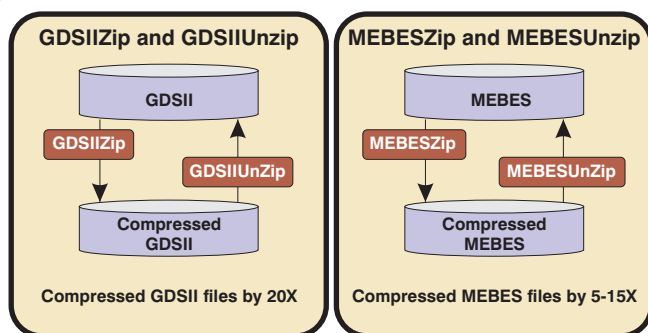
## SoftJin's Layout and Mask Data Compressors

The size of Layout and Mask data is growing continuously with each technology node leading to problems of data transfer, data storage and File I/O for EDA tools. As per ITRS roadmap, the layout data volume is expected to be up to 850 GB for a single layer for 45nm half pitch node by 2010.

SoftJin has developed patent pending data compression technology specially targeted at IC Layout and Mask Data. Based on the technology, SoftJin is offering reversible (bit-by-bit matching) compression products for GDSII and MEBES formats.

### GDSIIZIP

GDSIIZIP converts GDSII layout data into a highly compressed data that can be decompressed back by GDSIIUnzip to recover the original GDSII file (bit-by-bit matching). On average, GDSIIZIP compresses GDSII files to 20X smaller size as compared to original GDSII, which is 4X better than commonly used gzip. GDSIIZIP is best in the class both in terms of compression ratios and run-time for compression and decompression



### MEBESZIP

Mask data requires compression even more as compared to Layout data as the essentially flat Mask data is more voluminous than the corresponding GDSII/OASIS layout data. Also, RET and Dummy fills affect mask data more than layout data. SoftJin's MEBESZIP converts MEBES mask data into a highly compressed data that can be decompressed back by MEBESUnzip to recover the original MEBES file (bit-by-bit matching). Depending upon the source of original MEBES data, MEBESZIP compresses MEBES files by 5X to 15X smaller size, which is 3.5X to 5X better than gzip.

Other value added features available in both GDSIIZIP and MEBESZIP include availability of APIs through which these tools can be directly integrated with other EDA tools that generate or consume GDSII/MEBES data. This enables tools to generate compressed data at source or directly accept compressed data, thus saving tremendous disk I/O time. GDSIIZIP and MEBESZIP provide options for structure-wise and segment-wise compression of the GDSII and MEBES files respectively. The compressed data can then be selectively de-compressed. This enables on-demand reading of compressed data thereby further reducing in-core memory requirements. The tools also include in-built verifiers that perform on-the-spot verification of compressed file, thus eliminating the worry of fidelity of de-compression. Options are provided for in-built data encryption and decryption that provide enhanced security during transfer of compressed data.

## Key Benefits

- Best in class compression of GDSII and MEBES data files
- Reduced file transfer time across design groups, mask makers and foundries
- Reduced disk space requirements for storing and archiving
- Reduced file read/write I/O when integrated into CAD tools

## Features

- Supports selective compression and decompression
- C++ API available for native support of compressed format in 3rd party tools
- In-built verifier for checking correctness
- Option for Data encryption and decryption