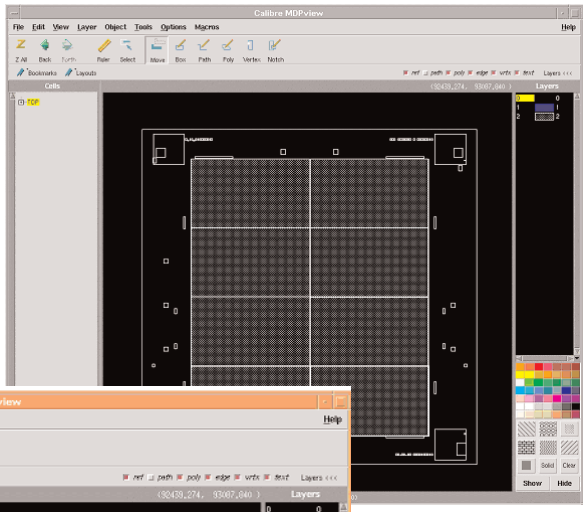
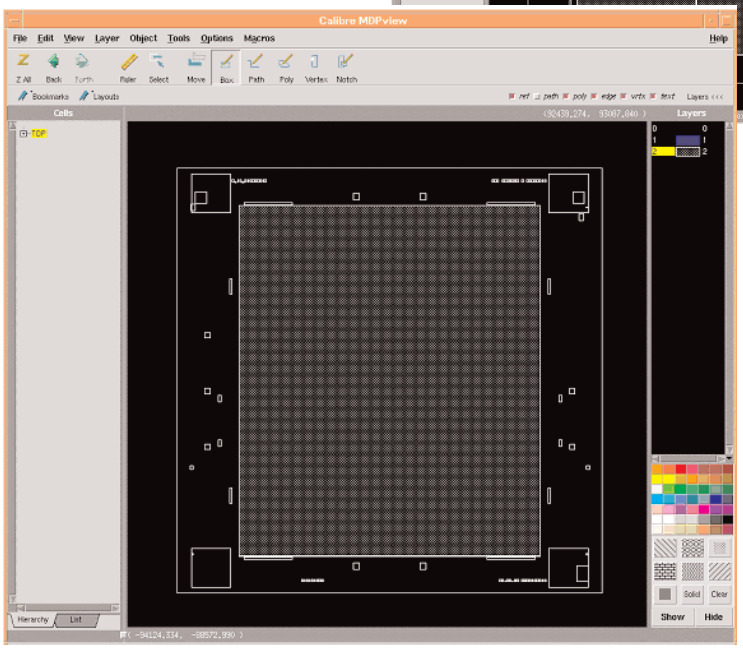
Calibre MDPmerge

Manufacturability
D A T A S H E E T

Calibre MDPmerge, part of Calibre's MDP tool suite from Mentor Graphics, enables the merge of chip placements in VSB11 jobdecks as the precursor to mask writing.





The illustration shows a VSB11 jobdeck before (above) and after (left) the merge operation has been conducted.

Calibre MDPmerge - Merging chips in VSB11 jobdecks

Calibre® MDPmerge extends the Calibre's mask data preparation (MDP) product line, which includes data preparation utilities to generate, view and verify mask data. As part of Calibre's design-to-silicon platform, it enables a continuous flow from physical verification (DRC/LVS)and resolution enhancement techniques (RET) to the completion of mask data preparation.

The generation of the individual pattern files in VSB11 format using the Calibre FRACTUREt tool results in chip data sets optimized for fastest mask writing and tight CD control. The subsequent assembly of the individual chips through a jobdeck can be further optimized by streamlining the writing sequence as well as by enabling accurate correction of proximity effects. This is accomplished by merging individual chip placements into a single chip along with the update of the placement information. MDPmerge offers this functionality by deploying Calibre's powerful hierarchical engine along with parallel processing methods in SMP and distributed computer environments. This enables fast processing speeds in addition to an optimization of the output for most efficient mask writing.

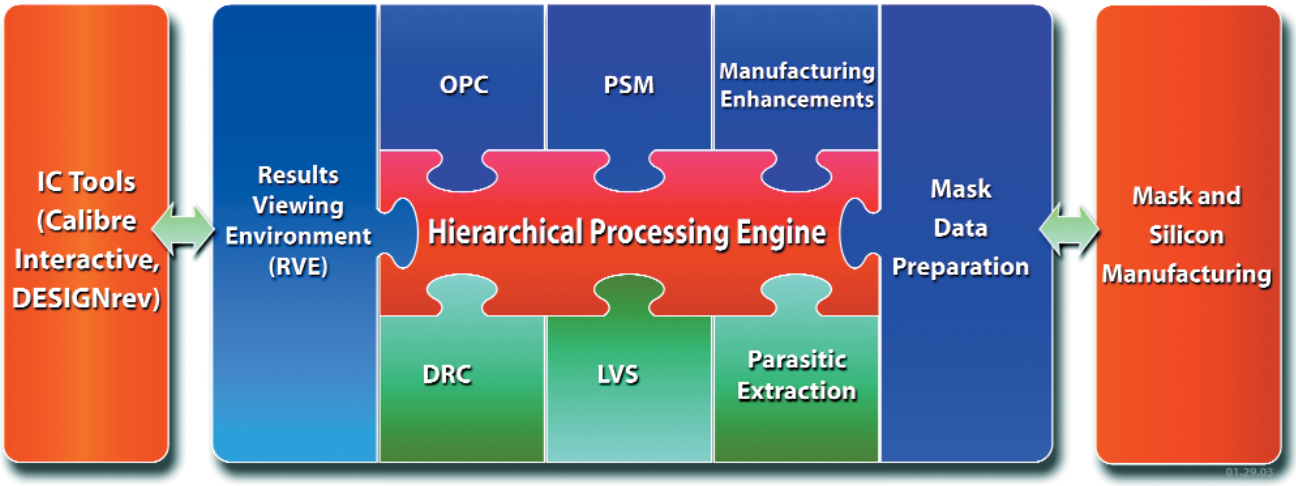
Key Product Benefits

- Merges individual chips for mask writing tolerance and throughput optimization
- Completes the data preparation flow for VSB11 format
- Easy parameterized tuning for various mask writer types
- Dynamic memory allocation
- 32- and 64-bit in HP, Sun and Linux platforms
- Multi-threading and distributed processing with excellent scaling performance
- Integrated with Calibre design-to-silicon platform

Calibre MDP Tools and Capabilities

- Calibre FRACTUREm
- Calibre FRACTUREj
- Calibre FRACTUREt
- Calibre MDPverify
- Calibre MDPview
- Mask rule checking
- Mask process correction

Mentor Graphics®



The Calibre tool suite offers a complete design-to-silicon solution to ensure a confident design for manufacturing.

Calibre Offers a Complete Design-to-Silicon Solution

A powerful hierarchical engine is at the heart of the Calibre tool suite, which offers a complete IC and SoC design-to-manufacturing solution. Each tool is an excellent point tool on its own, but the combination of Calibre DRC, Calibre LVS and Calibre RVE (results viewing environment) with Calibre xRC, Calibre RET and Calibre MDP, simplifies and strengthens the design flow.

Calibre xRC parasitic extraction tool accurately models the parasitic effects of passive interconnects that can cause design failure in deep submicron IC designs. Automated interfacing of Calibre LVS to Calibre xRC provides simplicity (one rule file, one invocation) and automated back annotation for accurate parasitic extraction results, and ensures accurate and intentional device extraction with parameter calculation and parasitic device extraction for accurate simulation.

Calibre Interactive™ complements the Calibre physical verification tool suite by enabling designers to perform verification from within Cadence® Virtuoso and Mentor Graphics IC Station and Calibre DESIGNrev. Together with Calibre RVE, Calibre Interactive provides a seamless, push-button interface, enabling designers to use a single platform for cell/block and full-chip physical verification.

The Calibre RET tool suite for Optical and Process Correction (OPC), Phase Shift Mask (PSM), Scatter Bars (SB) and Off-Axis Illumination (OAI) deliver silicon accuracy, fastest turn-around-time and excellent yield.

Calibre MDP allows for seamless continuation of the data manipulations required for RET techniques to the mask data format conversion in one batch run, keeping data hierarchically represented as long as possible.

Visit our website at www.mentor.com/dsm

Copyright © 2004 Mentor Graphics Corporation. Mentor products and processes are registered trademarks of Mentor Graphics Corporation.
All other trademarks mentioned in this document are trademarks of their respective owners.

Corporate Headquarters
Mentor Graphics Corporation
8005 SW Boeckman Road
Wilsonville, OR 97070-7777
Phone: 503.685.7000
Fax: 503.685.1204

Sales and Product Information
Phone: 800.547.3000

Silicon Valley
Mentor Graphics Corporation
1001 Ridder Park Drive
San Jose, California 95131 USA
Phone: 408.436.1500
Fax: 408.436.1501

North American Support Center
Phone: 800.547.4303

Europe Headquarters
Mentor Graphics Corporation
Arnulfstrasse 201
80634 Munchen
Germany
Phone: 49 (0) 89 57096-0
Fax: 49 (0) 89 57096-400

Pacific Rim
Mentor Graphics (Taiwan)
Room 1603, 16F
International Trade Building
No. 333, Section 1, Keelung Road
Taipei, Taiwan, ROC
Phone: 886.2.87252000
Fax: 886.2.27576027

Japan
Mentor Graphics Japan Co., Ltd.
Gotenyama Hills
7-35, Kita-Shinagawa 4-chome
Shinagawa-Ku, Tokyo 140
Japan
Phone: 81.3.5488.3033
Fax: 81.3.5488.3021

8-04 MGC 1022920-w