DASSAULT SYSTEMES

ENOVIA

Synchronicity

ENOVIA Synchronicity for Milkyway

ENOVIA® Synchronicity® for Milkyway provides design data management for Synopsys Milkyway data. ENOVIA Synchronicity for Milkyway extends ENOVIA® Synchronicity® DesignSync® Data Manager and ENOVIA® Synchronicity® DesignSync® Central™.

Key Benefits

- Undisputed industry leader in the management of Synopsys Milkyway design data
- Integrated into the Synopsys Galaxy Platform design environment – designers work in the tools with which they are familiar
- Aware of the unique structure of a Milkyway database
- Manages Milkyway data, along with non-Milkyway project data, letting you connect and manage your entire design chain with a unified Design Data Management system

Product Overview

ENOVIA Synchronicity for Milkyway integrates ENOVIA Synchronicity products with the Synopsys Galaxy™ Design Platform. The Synopsys Milkyway™ Database provides unified design data storage for Synopsys' Galaxy Design Platform.

ENOVIA Synchronicity for Milkyway modifies both ENOVIA Synchronicity products and design tools included in the Synopsys Galaxy Design Platform such as Astro™ and JupiterXT™:

- ENOVIA Synchronicity products are extended with the capability to recognize and efficiently manage Synopsys design data stored in a Milkyway database.
- The Synopsys Galaxy Design Platform is modified with the addition of Synchronicity menus and commands.

Designers are able to perform Design Data Management (DDM) operations such as checkin, checkout, or tag, without leaving the familiar Synopsys design environment, and without having to manage the actual collections of files and directories on disk which represent Synopsys design view types such as place and route abstracts (FRAM) or physical layouts (CEL).

Collaboration Enabled

Most importantly, the ENOVIA Synchronicity for Milkyway allows companies to leverage the efforts of multiple designers on a single Milkyway database, eliminating the need to maintain multiple copies. Because physical design generates large amounts of data, the potential for disk savings alone is enormous.

The application of DDM in the Synopsys Galaxy Platform environment is complicated by the fact that the underlying Milkyway database cannot be directly shared by multiple users. The database is entirely binary. In addition to design data, it includes user specific information, complicated technology information, and reference library dependencies. Only the ENOVIA Synchronicity for Milkyway supports an environment in which multiple users working in individual workspaces can collaborate on a single Milkyway database which is stored in the DDM repository. Synopsys API functions are utilized to construct local user workspaces in a manner in which design objects, technology information, and reference library pointers can be revision controlled as a project evolves. The Milkyway database can be tagged at important milestones, facilitating data handoffs, and eliminating the need to make copies of the database in order to revert to a previous state.

EDA Data Awareness - Synopsys Library Recognition

Data awareness is important because data created and modified by Electronic Design Automation (EDA) tools, such as the Synopsys Astro place and route tool, is not stored on disk as a single file. Rather, a design object such as an Astro layout consists of a specific set of files.

In order for a DDM system to maintain a version history of changes to a layout, this set of files must be managed as a group. The group of files is also referred to as a "co-managed" set, or "collection object." These collection objects are stored in a larger directory structure called a "library." A Synopsys "library" consists of "view types," such as a place and route abstracts (FRAM) or layouts (CEL), each of which can represent multiple design objects. A binary "catalog" file is included as well, and the set of all the directories and files which represent the library are collectively referred to as the Milkyway database.

ENOVIA Synchronicity for Milkyway extends ENOVIA Synchronicity products with a capability to recognize Synopsys Milkyway libraries on disk as such, so as not to confuse them with ordinary directories and files. Collection objects are managed transparently to the end user, and a local binary catalog file is maintained so that a valid Milkyway data structure exists in the workspace.

When a user issues a command to checkout a version of a layout, the catalog is updated, and the appropriate versions of each of the member files of the collection object are checked out automatically. The member files of the collection are each individually version controlled, and a mapping is maintained between the version of the design object and the versions of the member files which constitute the version of the object. Storage of data in the DDM repository is efficient because only member files of a collection which are modified in an edit operation are stored in the new version of the design object. And because the design object is managed as a "collection," the tool prevents direct modification to individual member files, which can result in the corruption of the object as a whole.

When ENOVIA Synchronicity products are enabled with the ENOVIA Synchronicity for Milkyway, Synopsys data recognition becomes evident. Users operate on familiar constructs such as libraries, view types, and cell views.

Support for Tagging Methodologies

Every engineer has stories of bad files overwriting good files, and of the taped-out configuration being lost during the test run. Support for tagging the Milkyway database at various milestones allows users to take snapshots of known good configurations to safeguard against such occurrences. Libraries or individual cells may be tagged. Tagging is especially useful for data handoffs, making it easy for the recipient to know which version of a cell or library to fetch.

The ability to tag libraries at various stages of development also alleviates the need to make copies of the entire library to retain these stages. Because Synopsys libraries can become extremely large, the ability to tag various versions of a library instead of copying the library can result in enormous disk space savings.

The User Interface

ENOVIA Synchronicity menus are included in the Synopsys Galaxy Platform environment's "Cell Checkout" and "Library Tag" forms. The "Export Library Information" form enables one to extract technology or reference library information from the binary database into ASCII files which can be modified. Changes can then be "Imported" back into the binary database, and a revision history is maintained.

Product Highlights

Synopsys Milkyway Library Data Recognition

ENOVIA Synchronicity for Milkyway extends ENOVIA Synchronicity products with a capability to recognize and manage design objects stored in a Synopsys Milkyway database.

Design Collaboration Enabled

Only the ENOVIA Synchronicity for Milkyway supports an environment in which multiple users working in individual workspaces can collaborate on a single Milkyway database which is stored in the DDM repository.

Multiple User Interfaces

Users can drive their data through the Synopsys Galaxy Platform user interface, or the ENOVIA Synchronicity for Milkyway. This flexibility supports many different use models.

Efficient Disk Space Usage

Because the ENOVIA Synchronicity for Milkyway provides the capability to collaborate on a single Milkyway database, it is not necessary to make copies of databases for any user who wishes to contribute changes. Because of the potential for Milkyway databases to become extremely large, the potential for disk space savings is enormous.

Purging Data from the Repository

The data repository can be cleaned up by purging old versions of objects. A "purge" command deletes specified versions of an object on a single branch in the vault. Purging data results in disk space savings in the data repository.

Support for Tagging Methodologies

The ability to tag libraries at various stages of development also alleviates the need to make copies of the entire library to retain these stages. Because Synopsys libraries can become extremely large, the ability to tag various versions of a library instead of copying the library can result in enormous disk space savings.

Manage the Project Technology File

An ASCII technology file must be loaded into the binary Milkyway database. Over the course of a project, parameters in the technology file may be changed. The ENOVIA Synchronicity for Milkyway provides the means for extracting the technology file from the database into an ASCII file which can be edited, and then re-imported, such that the revision history of changes to the technology is maintained.

Manage the Project's Reference Libraries

Pointers to reference libraries are also maintained in the binary Milkyway database. The set of reference libraries may change over the course of a project. ENOVIA Synchronicity for Milkyway provides the means for extracting the reference library information from the database into an ASCII file which can be edited, and then re-imported, such that a revision history of the reference library pointers file is maintained.

Viewing Version History

The complete version history of a cell view may be viewed.

The Role of ENOVIA V6 and PLM 2.0

ENOVIA® Synchronicity® for Milkyway supports PLM 2.0, product lifecycle management online for everyone, and the ENOVIA V6 values: global collaborative innovation, single PLM platform for intellectual property (IP) management, online creation and collaboration, ready to use PLM business processes, and lower cost of ownership.

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Europe/Middle East/Africa
Dassault Systèmes
10, rue Marcel Dassault
CS 40501
78946 Vélizy-Villacoublay Cedex
France

Asia-Pacific
Dassault Systèmes
Pier City Shibaura Bldg 10F
3-18-1 Kaigan, Minato-Ku
Tokyo 108-002
Japan

Americas
Dassault Systèmes
175 Wyman Street
Waltham, Massachusetts
02451-1223
USA

Visit us at
3DS.COM/ENOVIA

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