DASSAULT SYSTEMES

ENOVIA

COLLABORATIVE

ENOVIA Collaborative Design for Cadence Allegro

ENOVIA® Collaborative Design for Cadence® Allegro enables companies to accelerate product development and delivery by allowing designers to easily share information regarding their electrical designs throughout the product lifecycle. The product facilitates concurrent printed circuit board (PCB) design, resulting in fewer engineering changes, shorter development times and lower production costs. This product is integrated with the following Allegro applications: Project Manager, Design Entry HDL, and PCB Design.

Key Benefits

- Decrease the time to develop printed circuit boards (PCBs) by enabling concurrent schematic and layout design.
- Manage complex design projects by enabling team-based schematic design using hierarchical design methodology.
- Reduce the number of design iterations by enabling enterprise collaboration throughout the design process between electrical and mechanical designers, purchasing, manufacturing, and partners.
- Reduce scrap and re-work costs by minimizing data transfer errors between engineering and manufacturing.
- Reduce ramp up production lead times by providing component information to your supply chain earlier in the development process through preliminary BOMs.

Product Overview

Ensuring that the right design data are being properly shared and managed across the value chain—a company's suppliers, partners and customers— is vital to a company's ability to bring products to market quickly and correctly the first time. In Printed Circuit Board (PCB) designs, this effort is complicated by several factors including that electronic designs are growing exponentially in complexity (creating several gigabytes of data) and that corporations have geographically dispersed design teams across multiple time zones. As design and manufacturing functions continue to occur outside the walls of an organization, it is increasingly critical that all members contributing to the PCB design process have full access to the most recent design data, when they need it and wherever they are located. ENOVIA Collaborative Design for Cadence Allegro allows PCB development teams to collaborate during the board design process, and to collect, track, protect and deliver product design information seamlessly across ECAD (Electronic Computer Aided Design) systems and other enterprise applications.

ENOVIA Collaborative Design for Cadence Allegro provides a simple, yet secure, workgroup and enterprise data management system that integrates directly into ECAD design environments, allowing a designer to easily share electronic design data with other designers, enterprise users and partners. The product facilitates concurrent PCB design resulting in fewer engineering changes, shorter development times and lower production costs. With this product, schematic and layout designers can work concurrently on either the same design while keeping design databases synchronized (i.e. components, connectivity, properties, etc) or on different hierarchical blocks of the schematic design, independently revising their designs in the same project.

ENOVIA Collaborative Design for Cadence Allegro is intended to work with ENOVIA® Designer Central™ in order to create a collaborative environment for managing design data from multiple ECAD and/or Mechanical Computer Aided Design (MCAD) tools. With ENOVIA Designer Central, the Cadence Allegro users are able to:

- Independently manage various aspects of the design facilitating collaboration, including:
  - The entire schematic hierarchy
  - The PCB layout
  - The project directory
- Create derived outputs (i.e. manufacturing data automatically generated by the ECAD application)
- Manage design variants as defined in the ECAD application, each with its own derived outputs
- Manage annotation files for the purpose of collaboration with the PCB layout
- Assign the design to workspace folders to facilitate collaboration
- Synchronize attributes between the design and the CAD model in ENOVIA

Product Highlights

ENOVIA Collaborative Design for Cadence Allegro enables electronic designers to collaborate on complex designs as well as share design information with the extended enterprise, thereby shortening development times, reducing design errors and introducing products to market faster.

Concurrent Design PCB Schematic and Layout

Schematic and layout designers have the freedom to work concurrently to shorten development times. As changes are made to the schematic and layout, synchronization is accomplished through forward and backward annotation files that can be accessed through shared workspace folders in ENOVIA. Subscriptions allow the layout designer to be notified when the schematic design is checked-in by the logic designer. The relationships between schematics and layout are maintained so traceability is never lost even when working with third party designers.

Manage Team-Based Hierarchical Schematics

Top-down design methodology enables several designers to work concurrently on complex PCB projects. In this method, a PCB design is divided into logical, manageable blocks, and each team member is allocated a block to capture and verify. ENOVIA Collaborative Design for Cadence Allegro manages block-based designs within the same project. Project managers have visibility into multi-level and multi-page designs and can assign team members to implement the functionality underlying each block.

Flexible Design and Variant Configuration Management

ENOVIA Collaborative Design for Cadence Allegro enables better control of design data through check-in and check-out of electrical design data and flexible configuration management. The product also supports unlimited board assembly variants without having to maintain duplicate schematics or manually edit Bills of Material (BOMs). This ensures there is one source of the truth for manufacturing.

BOM Management

A BOM can automatically be generated anytime during the design process for review by designers, procurement and component engineers to estimate cost, part status and availability. A preliminary BOM can be created for early concept design collaboration even before an ECAD design is formally managed in ENOVIA. The design BOM can be modified by adding and removing parts manually or automatically by importing a parts list in a comma delimited format (CSV). The design BOM can be verified to ensure that the parts are available for production. When it is ready for collaboration the BOM can then be made available to users of ENOVIA® Engineering Central™ to create markups and add comments of proposed changes. Once approved, BOM markups can be applied to an Engineering Change Order (ECO) to automatically implement the change.

Library Information Management

By synchronizing part data between ENOVIA and ECAD libraries, designers can make smarter component choices early in the design process reducing design iterations and product development times. This feature allows bi-directional transfer of part information, ensuring that data is synchronized as changes are made in either ENOVIA or ECAD libraries. Therefore, designers can use native CAD tools to find PCB components and display ENOVIA attributes. Furthermore, enterprise users can use ENOVIA to find CAD parts and display CAD parameters. Synchronization is based on Engineering Central part types or Library Central classes. Batch mode allows updates to be made periodically or as needed.

Derived Outputs

Derived outputs such as netlists, drawing plots, milling data, artwork, drill data and other manufacturing information can be automatically generated and stored with the design.

The Role of ENOVIA V6 and PLM 2.0

ENOVIA Collaborative Design for Cadence Allegro supports PLM 2.0, product lifecycle management online for everyone, and the ENOVIA V6 values, which are:

- Global collaborative innovation
- Single PLM platform for intellectual property (IP) management
- Online creation and collaboration
- Ready to use PLM business processes
- 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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