cadence®

Allegro EDM Solution

A collaborative environment to improve design team productivity, across the entire lifecycle from requirements to manufacturing.

The Cadence® Allegro® EDM product suite provides a team-based collaborative engineering data management (EDM) environment for work in progress library and design data management inclusive of seamless integration to PLM and manufacturing. Allegro EDM's proven methodology has been shown to increase the productivity of local and global design teams by up to 50%. The Allegro EDM Solution simplifies the process for managing component, library, and design data throughout the PCB design process.

Allegro EDM Solution

Engineers spend more than 50% of their time fixing errors and searching for data they should already have, such as parts, associated data, compliance, costing, life cycle data, and so on.

This non-value-added work is often repeated by several engineers within a company because the data retrieved is not stored in a common repository or parts library.

More engineers sourcing information independently causes more duplication and potentially more quality issues.

Library data drives the rest of the PCB design process. Good library data can streamline and improve the design creation and implementation process, while inaccurate and insufficient data can elongate the design process—or worse, create costly re-spins resulting in delays and unnecessary expenses.

Library data, once centralized, managed, and distributed regularly, assists engineers in using the latest part data—symbol, footprint, metadata. As the design process begins, engineers need to know whether the part they have used in their design has an updated version available from the library. They also need a way to easily update their design with the latest version of the part data.

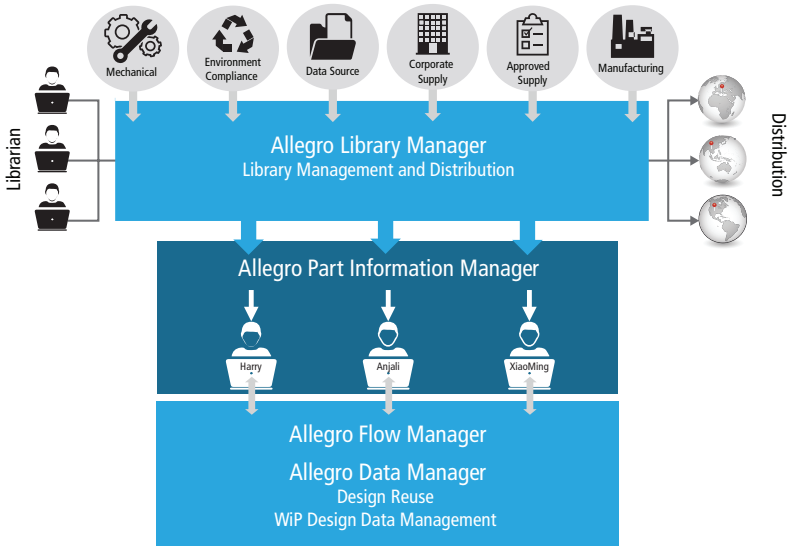

Figure 1: The Allegro EDM consolidates different data sources into a common enterprise-wide library that can be accessed by engineers from their design authoring tools, thereby reducing cost and improving quality and productivity

Design data should be managed on an ongoing basis to reduce the risk of data loss, as well as used in a structured IP reuse methodology to reduce risk and shorten design creation and implementation time.

With the Allegro EDM Solution, you can integrate a wide variety of data sources into a single library, decrease your manufacturing and sustainability costs, and increase quality and productivity, all while eliminating costly re-spins.

Allegro Data Manager

Tightly integrated with the Allegro Design Entry HDL and Allegro PCB Editor, the Allegro Data Manager provides a configurable design environment that allows companies to define and implement standard design methodologies across multiple design disciplines. The use of common design tools and best practices maximizes individual productivity and reduces design cycle time. Using the same part information manager as the Allegro Library Manager, the Allegro Data Manager allows parametric component searches that tie into your company's preferred components database, promoting the use of approved and preferred parts and reducing component research time by as much as 75%.

Work-in-Progress Data Management

The Allegro Data Manager provides work-in-progress (WIP) data management and enables team collaboration that allows users to control change adoption and maintenance of design revision history. In addition, it provides access to the most current design data—"where-used" visibility allows all team members to see where components are used in both production and archived designs (if the connected data vault system supports such capabilities). Because it manages schematic and board files separately, the Allegro Data Manager facilitates concurrent design and collaboration, including securely shared workspaces for both local and globally dispersed design teams.

This functionality also provides direct integration between the (optional) team design capability of the Allegro Data Manager and the Allegro Data Manager vault. The Allegro Data Manager vault provides the design team with an efficient and lightweight environment for collaboration and communication during design as well as providing robust access control and WIP revision management of design data.

Release to Manufacturing

The design data created in PCB is a critical component to the product record. With Allegro EDM's integrated release to manufacturing capability, engineering teams can frequently, accurately, and efficiently update enterprise systems, such as product lifecycle management (PLM). Release to manufacturing obtains the current state of the bill of materials (BOM), variants, design data, and manufacturing deliverables in the context of the corporate PLM workflow, such as the PLM ECO and release processes—with little to no additional work by the engineer—eliminating the costly time engineers spend manually extracting and uploading data, all while improving the quality and frequency of the release. The improved collaboration allows better visibility across manufacturing, reduced supply chain and management time, cost and risk in the overall process while allowing engineers to focus on innovation.

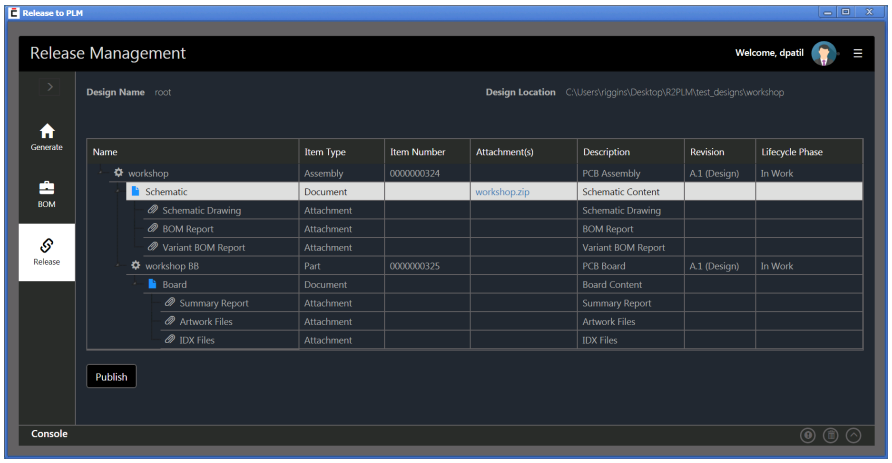

Figure 2: Using a simple wizard-based workflow, engineers are quickly guided through obtaining all the correct information for PLM and mapping into the corporate product structure, taking a manual process from hours to minutes

Benefits

- Cuts training and support costs by providing a common user interface and design methodology across the enterprise
- Improves the productivity of engineers, designers, component engineers, procurement, and others by expanding access to component information and design data
- Improves quality and reduces board spins by providing common access to "known-good" library data
- Eliminates design errors due to out-of-date or defective libraries by interactively synchronizing logical and physical reference libraries with logical and physical design projects
- Enables asynchronous concurrent design and reduces development time by managing schematic and layout data separately during the design process
- Enables efficient management, tracking, and debugging of software infrastructures
- Provides teams with a collaborative environment for effective, efficient, and robust data management, communication, and controlled access to design data
- Allows increased collaboration with manufacturing and enterprise by automating the release of BOM, variants, and manufacturing deliverables directly into enterprise PLM systems

Allegro Library Manager

The Allegro Library Manager is a library development and management environment that enables PCB librarians to create, validate, manage, and distribute library parts and their associated data for use with Allegro Design Entry HDL, OrCAD® Capture Component Information System (CIS) (schematic symbols), and Allegro PCB Editor (PCB footprints).

As parts are created or modified, the Allegro Library Manager automatically creates revisions and distributes the updated design libraries to the company or designated design sites, thereby keeping all design centers up to date with the latest component and library information. The Allegro Library Manager works in conjunction with the Allegro PCB Librarian and incorporates all the capabilities of the Allegro EDM Solution, allowing the librarian to act as a super-user.

This capability permits the librarian to test the library elements in the same environment that is used in production and to perform all the tasks that a designer performs when using the libraries.

The Allegro Library Manager uses a server to provide a central repository for librarians. One server is required for each design site. The library server can, optionally, connect to a product lifecycle management (PLM) server for the synchronization of business metric data that provides the design engineer with real-time decision data.

Features

Library development flow

The ability to set up standard part creation methodologies through the Flow Manager GUI streamlines the library development process. Users can define standard flows for multiple types of parts, each with a different flow and access to different tools (e.g., schematic symbols versus layout footprints). Selecting a step in the flow displays the tools appropriate for that step. This list of tools acts as a checklist, creating a shorter learning curve, improving productivity, and ensuring consistency in part creation. Library verification steps, with their appropriate tools, are built into the flow to facilitate rapid verification of components.

Multi-site library distribution

The Allegro Library Manager maintains a central master library of preferred parts and associated known-good library data that is automatically distributed to various design sites as new parts and updates appear in the library. This master library keeps all design sites up to date with the latest additions and changes, ensuring that all designers have access to the most current library and component information.

Regulatory compliance

Regulatory compliance directives (such as the Restriction of Hazardous Substances Directive, or RoHS) are a top concern for electronics designers. The Allegro Library Manager captures RoHS and other regulatory compliance component information, making it searchable in the part information manager. Designers can search for compliant parts in the library or specify a preferred parts list that contains only compliant parts. Regulatory compliance information can be automatically sourced or synchronized with a corporate PLM system through the PLM vendor's gateway, which integrates directly with the Allegro Library Manager.

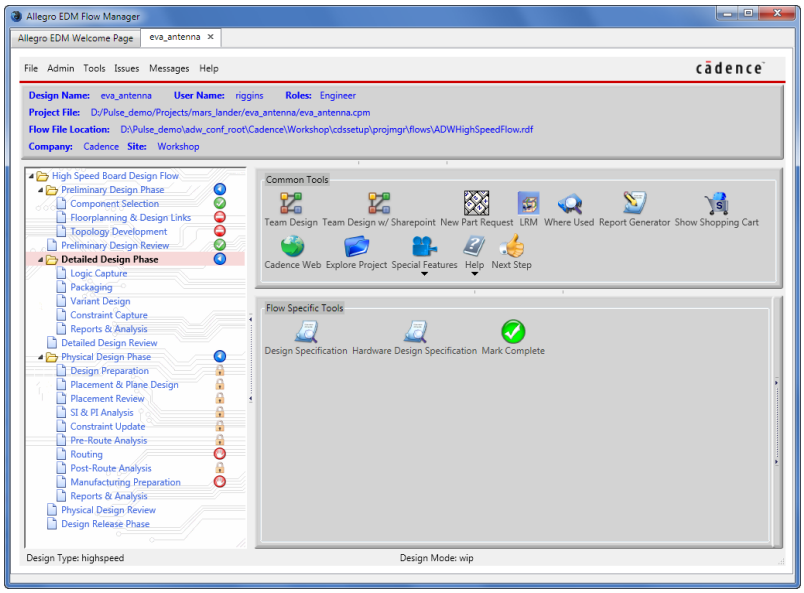

Figure 3: Configurable design flow guides users through the design process and brings appropriate design tools to the user's desktop in each step of the process

IP reuse management

The Allegro Library Manager provides comprehensive library model management for logical schematic blocks and physical modules, promoting design reuse by providing rapid cataloging and access to reusable design IP. It allows capturing of existing logical and physical IP blocks that can increase overall quality by allowing the use of pre-validated IP. This, in turn, can help simplify complex design issues resulting in shorter overall design cycles.

Benefits

- Reduces the time to create, validate, and manage large pin-count devices— from days to minutes— by employing an all-encompassing librarian toolbox
- Decreases design ECOs by verifying the accuracy of logical symbols and physical footprints using automatic library part validation
- Eliminates design errors due to out-of-date or defective libraries by automatically synchronizing logical and physical reference libraries across the enterprise
- Increases librarian productivity and company purchasing power by eliminating redundant components and supplier
- When connected to enterprise PLM (through a PLM vendor-supplied gateway), enables holistic part creation, management, and synchronization across the ECAD and PLM business data management worlds
- Supports joint development model (JDM) methodologies commonly used between OEMs and ODMs/EMS through partial library distribution and synchronization

Allegro Flow Manager

The Allegro Flow Manager, a key component of the Allegro EDM Solution, facilitates a configurable work environment, enabling a common cross-organization, cross-company methodology by defining standard design flows across a variety of design types, such as standard, high speed, analog, and prototype. Each flow is defined with access to appropriate design tools and aids for each step in the flow. These flows can act as a checklist that helps shorten learning curves and makes casual users more productive, ensuring that important steps and checkpoints are not missed. Library development flows can also be employed, facilitating the use of the Allegro Flow Manager in the Allegro Library Manager.

Allegro Part Information Manager

The Allegro Part Information Manager's parametric component search ties into your company's preferred components database, providing access to approved and preferred parts, thereby helping lower costs and reduce inventory. Users can search and select parts based on parametric and business data, and view schematic symbols, PCB footprints, and component datasheets during the selection process. The selected parts are used to build a preliminary BOM from which they can be added directly into the schematic.

Allegro Team Design Options

The Allegro Design Authoring and Allegro PCB Team Design options allow multiple design engineers or PCB designers to collaborate asynchronously in the development of a logical design or PCB. Schematic designs can be user-partitioned at the page level or hierarchical block level, and assigned to specific members of the engineering team, providing them with an isolated "sandbox" for the development and verification of their partition(s), block(s), or sub-design(s).

The Team Design dashboard provides the user with a visual reference as to the state of various sub-designs, current versions of the shared project versus a local working project, and a set of functions that allow the management of sub-designs.

Benefits

- Improves control over the design by allowing a team lead to grant access to specific areas of the design to specific team members
- Reduces configuration management overhead by enabling teams of engineers and designers, even in geographically disperse regions, to work concurrently on the same project using a common dashboard
- Improves predictability and consistency by isolating changes to the master design through a sandbox WIP area for each user and by versioning design objects during each check-in
- Enables a design-reuse methodology

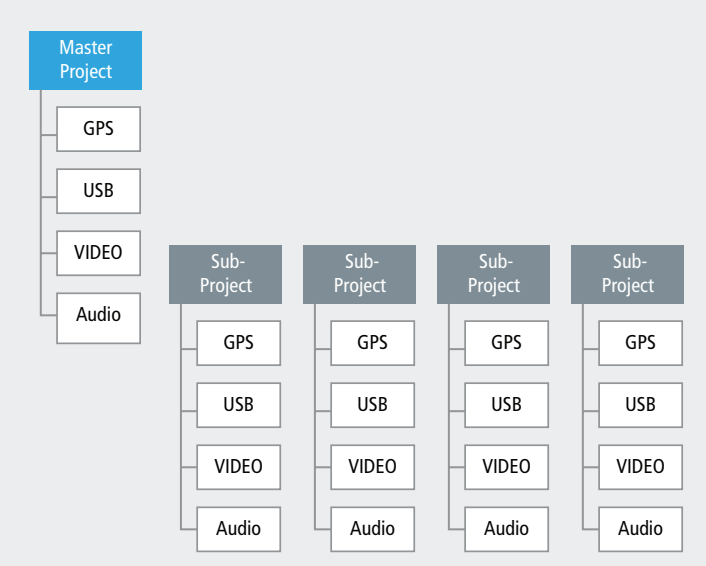

Figure 4: The initial "master" project is automatically replicated in each team member's own area, allowing controlled synchronization and updating of modules to/from the "master" as the design progresses; team members can develop and validate asynchronously without disrupting other team members or the master project until requested or required

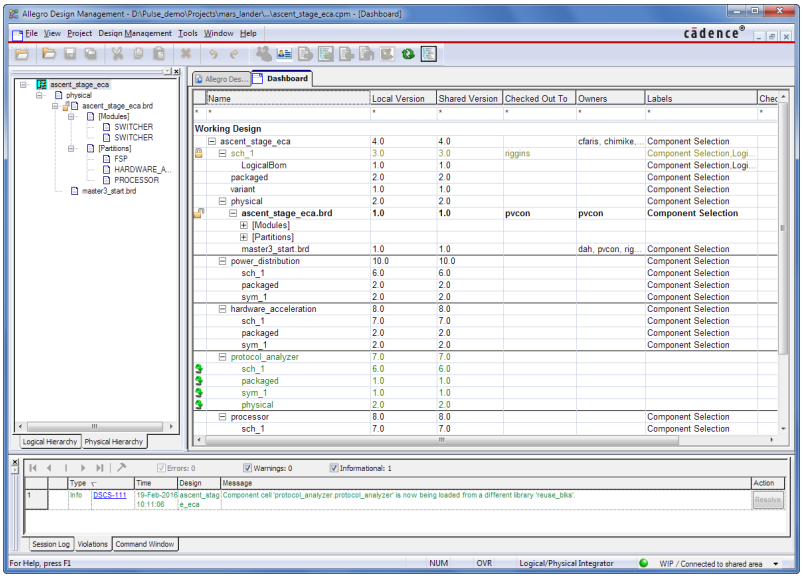

Figure 5: Configurable design flow guides users through the design process and brings appropriate design tools to the user's desktop in each step of the process

Specifications

System Requirements

- Cadence Allegro Data Manager vault

Platform/OS

- Windows 7 (64 bit)
- Windows 8 (64 bit), all service packs
- Windows 10 (64 bit)
- Windows 2008 Server R2
- Windows 2012 Server, all service packs
- Linux RHEL 5.10/6.5/7.1 (64 bit)
- SLES 11 SP2/SP3 (64 bit)

Cadence Services and Support

- Cadence application engineers can answer your technical questions by telephone, email, or internet—they can also provide technical assistance and custom training
- Cadence-certified instructors teach more than 70 courses and bring their real-world experience into the classroom
- More than 25 Internet Learning Series (iLS) online courses allow you the flexibility of training at your own computer via the Internet
- Cadence Online Support gives you 24×7 online access to a knowledgebase of the latest solutions, technical documentation, software downloads, and more

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