

## Allegro Design Workbench

A collaborative environment to improve design team productivity

Part of the Cadence® Allegro® PCB and enterprise family of solutions, the Allegro Design Workbench family provides a team-based collaborative environment with work-in-progress data management provide by Microsoft SharePoint 2010. Its Workbench methodology has been proven to improve the productivity of local and/or global design teams by up to 50 percent. Ideal for library, engineering, and PCB design groups, Allegro Design Workbench comprises two main products: a server and an application option.

### Allegro Library Workbench

Allegro Library Workbench 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 (schematic symbols), Allegro PCB SI (signal integrity models), and Allegro PCB Editor (PCB footprints).

As parts are created or modified, Library Workbench automatically creates revisions and distributes the updated design libraries to company or specified design sites. This keeps all design centers up to date with the latest component and library information. Library Workbench works in conjunction with Allegro PCB Librarian and incorporates all of the capabilities of Allegro Design Workbench, allowing the librarian to act as a super-user. This permits the librarian to test the library elements in the same environment that is used in production and perform all of the tasks that a designer will perform when using the libraries.

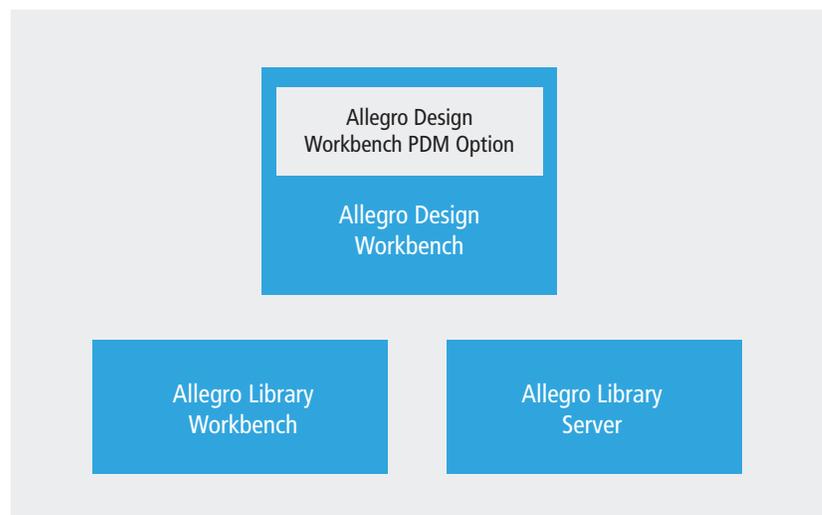


Figure 1: One Allegro Library Server is required per "site" or LAN; the PDM option connects to Allegro Design Workbench and enables work-in-process design data management and enhanced collaboration through Microsoft SharePoint 2010; the PDM option also provides integration with broadline third-party PLM solutions

### 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- Eliminates design errors due to out-of-date or defective libraries by automatically synchronizing logical and physical reference libraries across the enterprise

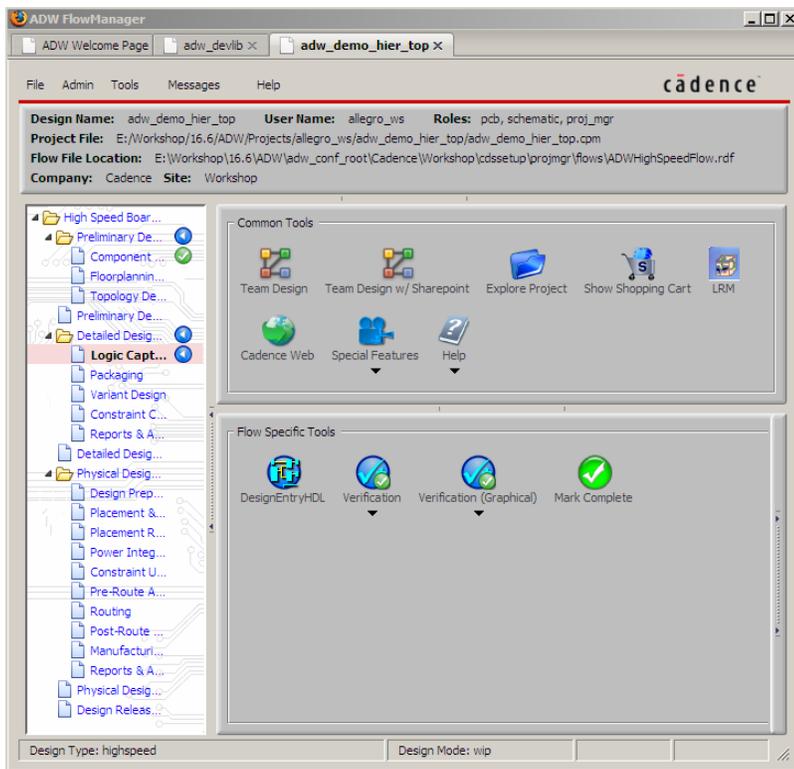


Figure 2: Configurable design flow guides users through the design process and brings appropriate design tools to the user's desktop in each step of the process

- 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/EMSs through partial library distribution, synchronization, and management

## Features

### Configurable work environment

The Workbench enables common cross-organization/company methodologies 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.

### Component browsing

Parametric component search ties into your company's preferred components database, providing access to approved and preferred parts. This helps 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 data sheets during the selection process. The selected parts are used to build a preliminary bill of materials (BoM) from which they can be added directly into the schematic.

### Library development flow

The ability to set up standard part creation methodologies through a 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 vs. layout footprints). Selecting a step in the flow displays the tools appropriate for that step. This 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 in to the flow to facilitate rapid verification of components.

### Multi-site library distribution

Allegro Design Workbench 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 keeps all design sites up to date with the latest library additions and changes, ensuring that all designers have access to the most current library and component information.

### Regulatory compliance

Regulatory compliance directives (such as RoHS) are a top concern for electronics designers. Allegro Design Workbench captures RoHS and other regulatory compliance component information, making it searchable in the component browser. 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 vendors Gateway, which integrates directly with Allegro Library Workbench when using the PDM option.

### Design IP management

Allegro Library Workbench now 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, which can increase overall quality by allowing use of pre-validated IP. This, in turn, can help simplify complex design issues resulting in shorter overall design cycles.

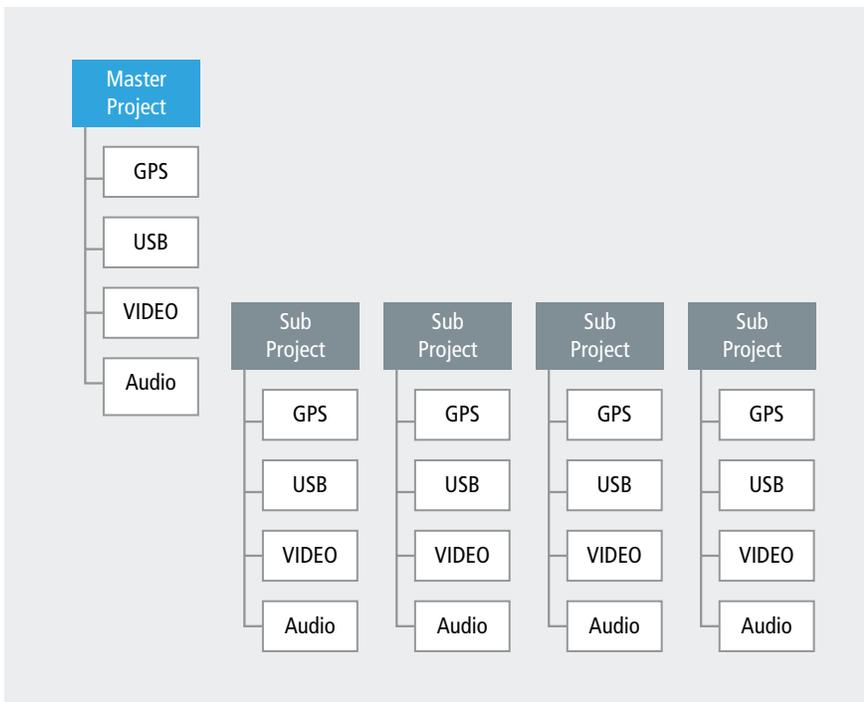


Figure 3: The initial “master” project is automatically replicated in each team member’s own area, allowing controlled synchronization and updating of modules to/from the “master” as the design progresses; team members can develop and validate asynchronously without disrupting other team members or the master project until requested or required

## Allegro Library Workbench Server

This provides a central server capability for librarians using Library Workbench. One server is required for each design site or LAN. The library server connects to a PLM server for the synchronization of business metric data that provides the design engineer with real-time decision data.

## Allegro Design Workbench

Tightly integrated with Allegro Design Entry HDL, Allegro PCB SI, and Allegro PCB Editor, Allegro Design Workbench provides a configurable PCB Team Design environment that allows companies to define and implement standard design methodologies across multiple design disciplines. Use of common design tools and best practices maximizes individual productivity and reduces design throughput time. Design Workbench 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 percent.

PCB Team Design authoring enables multiple design engineers to collaborate asynchronously in the design’s hierarchical development of a logical designs definition. A design can be partitioned into user-defined levels of hierarchy and distributed to the defined 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 shared area is the common location where the root design project data is stored. The shared area may be a mapped local disk drive, or a data repository system such as Microsoft’s SharePoint 2010. Using a platform such as SharePoint enables user-based file management, revision control, and other utilities available through the SharePoint tool different from the local mapped drive environment.

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 vs. local working project, and a set of functions that allow the management of sub-designs.

## Benefits

- Cuts training and support costs by providing a common user interface and design methodology across the enterprise
- Improves 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

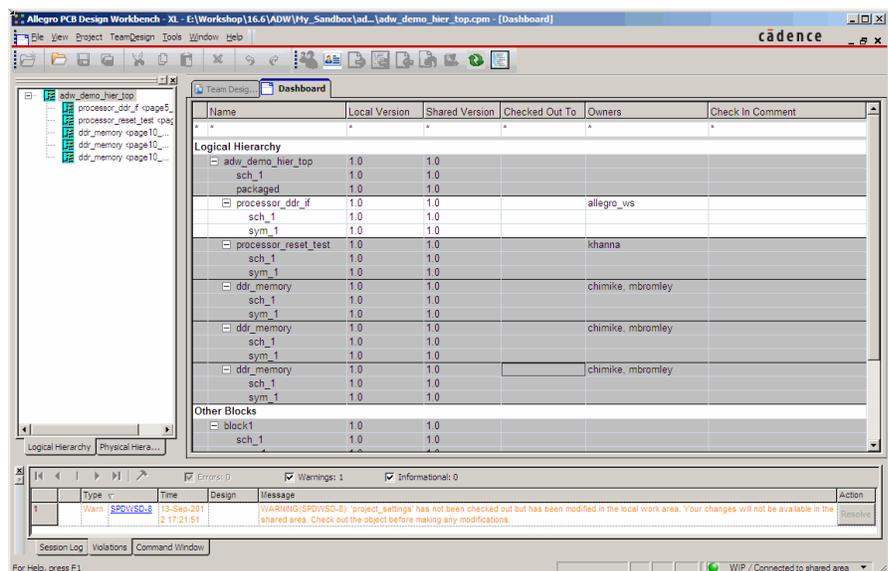


Figure 4: Allegro Design Workbench Team Design dashboard

- 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
- Software serviceability capability enables efficient management, tracking, and debugging of software infrastructures

### Allegro Design Workbench PDM Option

This option enables the direct integration with a corporate PLM system (PLM vendor-supplied Gateway required), providing work-in-progress (WIP) data management and enabling team collaboration that lets users control change adoption and maintain 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 providing the connected PLM system supports such capabilities. Because it manages schematic and board files separately, the Design Workbench PDM Option facilitates concurrent design and collaboration including secure shared workspaces for both local and globally dispersed design teams.

The PDM Option also provides direct integration between the Team Design capability of Design Workbench and Microsoft SharePoint 2010. SharePoint 2010 provides the design team with an efficient and lightweight environment for collaborating and communication during design as well as providing robust access control and WIP revision management of design data. Furthermore, most PLM vendors offer/provide integration with SharePoint, making the path to archiving/release handoff a simple process.

#### Benefit

- Integration with SharePoint 2010 provides teams with a collaborative environment for effective, efficient, and robust data management, communication, and controlled access to design data

#### Specifications

##### System Requirements

- Software requirements
  - ADW/SPB 16.6
  - Java 1.6
  - Firefox 3

##### Platform/OS

- Windows XP Pro (32 bit)/Vista (32/64 bit)/Windows 7 (32/64 bit)
- Windows 2008 Server (32/64 bit)
- Solaris 10/Linux RHEL 5.5/6.0 (64 bit)/SLES 11 (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 24x7 online access to a knowledgebase of the latest solutions, technical documentation, software downloads, and more

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