



ENOVIA Designer Central

Product Objective

ENOVIA® Designer Central™ enables designers around the world to manage and collaborate from one application, no matter what design tools they are using. ENOVIA Designer Central eliminates the need for multiple Computer-Aided-Design (CAD) work group managers and the cost associated with supporting each related data manager.

Through its unique and open architecture, the ENOVIA Designer Central application can be deployed and supported from a central location, while the file locations can be distributed and controlled around the world to provide end users with expected performance during file downloads and uploads.

Product designs can be synchronized to the parts in the Engineering Bills-of-Material (EBOMs), so that the overall product development process stays coordinated. ENOVIA Designer Central provides collaboration tools to communicate synchronously or asynchronously across the globe. Through ENOVIA Designer Central's collaboration capabilities, needless design iterations can be eliminated, and real-time viewing and markup of designs can occur, even in the absence of the native design tools. Meetings can be scheduled with design content securely provided as part of the meeting, while discussion threads and markups allow for the capture of innovative thoughts in a natural, informal way without restricting end user creativity.

Product Overview

Ensuring that the right design data are being properly shared and managed across the value chain—suppliers, partners, and customers—is vital to a company's ability to bring products to market quickly and correctly the first time. In today's electro mechanical design environment, this effort is complicated due to electronic designs growing exponentially in complexity and creating large amounts of data that need to be shared across corporations with geographically dispersed design teams. As design and manufacturing functions continue to occur globally it is increasingly critical that all members contributing to the design process have full access to the most recent design data, when they need it and wherever they are located.

With ENOVIA Designer Central, ECAD (Electronic Computer Aided Design) and MCAD (Mechanical Computer Aided Design) users are able to:

- Independently manage modules which facilitate design reuse
- Grant access for other stakeholders across the company (product engineering, manufacturing, purchasing, etc.) to design data in real time throughout the entire product lifecycle
- Have project leaders create team workspace folders, defining access level for members and making design information easy to find
- Provide collaboration capabilities such as workflow, online meetings, subscriptions, and discussion threads, making it possible for dispersed design teams to productively collaborate on the same design

Key Customer Benefits

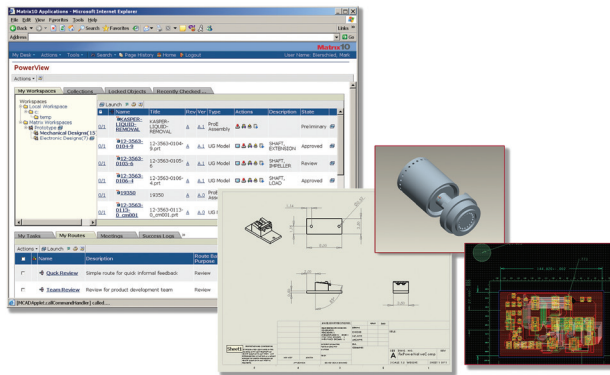
- Provide work-in-process data management across all popular mechanical and electrical design tools
- Visually collaborate around the design information or other information related to the design
- Schedule meetings for review at any step in the development process
- Securely provide design information to suppliers and customers
- Create private and public workspaces for organizing and sharing designs
- Manage local workspaces in the context of the PLM system
- Upload complex, multi-tiered, design hierarchies into ENOVIA
- Recursively check out complex, multi-tiered, designs into the CAD tool or onto disk
- Apply full revision and version control to all design models
- Alert users with design change notifications to their current work
- Create ad-hoc routes for asynchronous review of design content
- Capture discussion threads containing design suggestions and improvements
- Decrease the time to develop new products by enabling concurrent design across multiple disciplines
- Reduce the number of design iterations by enabling enterprise collaboration throughout the design process between electrical and mechanical designers, purchasing, manufacturing, and partners
- Allow users to utilize their design tool of choice while maintaining collaboration
- 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



Project managers, product engineers, manufacturing engineers, purchasing, document controllers, etc. may contribute through real-time collaboration using such capabilities as on-line meetings, 3D design reviews, downloading of derived outputs for subsequent downstream analysis and/or consumption of data into other post design applications. ENOVIA Designer Central provides a means for these users to complete these activities successfully without access to any 2D and/or 3D CAD modeling tool through direct access to the data provided.

Product Highlights

ENOVIA Designer Central provides a comprehensive environment for day-to-day design management. Additionally, ENOVIA Designer Central has an in-depth collaboration capability, which allows designers to work with team members around the world.



Product Driven Design

Companies that have chosen to utilize ENOVIA® Engineering Central™ can now closely associate the CAD designs with engineering parts. During the initial creation of CAD designs utilizing “Start Design Templates,” users may now associate automatically generated engineering part numbers to their CAD model templates before CAD work begins. This allows CAD structures to reserve an association to the engineering product designs. During the “Save” operation the connection between the CAD model and the engineering part is made. This association is also permitted during a “Save As” operation, copying a structure with a new name, the starting point for another CAD design structure.

CAD Structure and EBOM Synchronization Validation

Companies utilizing both ENOVIA Designer Central and ENOVIA Engineering Central realize the benefit of the close association of CAD designs and Engineering parts. An invaluable feature in this process is the synchronization of the finalized design with the associated part. As part of this process a visual display that graphically depicts what changes/updates are to occur before the transaction is committed. Users have the ability to verify that the actions to be taken are what is expected and if not, to solve any discrepancies.

Advanced CAD Structure Management

Utilization of the common Product Structure Editor within ENOVIA Designer Central allows users to generate new structures from existing designs stored in the ENOVIA database. User may also manipulate work-in-process structures through query of the database to find the latest available component or suitable replacements for designs in their active structure. The structure modifications are made in a markup state until the user commits the changes. These new/modified structures may then be checked out into the CAD application for further modification.

Release Management

Many design processes allow for the revision of a child component without the requirement of revising the parent. These processes, however, are for changes that do not affect form, fit, or function. In these instances it is acceptable to allow the modification of a design without the use of Engineering Change Order (ECO) release processes. Users with appropriate access can now accomplish this task. In addition, 3D designs often have many drawings associated to it such as section details and special configurations that need individual documentation. Users can choose to release all associated drawings of a 3D design throughout its multi-level structure.

Streamlined Operations

Users now have a user interface that allows them to maintain the CAD application focus while performing most of the normal day-to-day check in/out operations. The typical functions such as creating new designs, opening designs stored in ENOVIA, and storing designs in ENOVIA are accomplished through a Windows like user interface. Access to ENOVIA is maintained through the “Explore in ENOVIA” pull-down command to exercise Product Lifecycle Management (PLM) type functions on the stored CAD data.

Create and manage data workspaces from CAD tool

ENOVIA Designer Central allows users to create workspaces for project teams or for simple, ad hoc collaboration. From the native design application, designers can easily access data that is vaulted in the highly scalable ENOVIA® Collaboration Platform. Users can create folders within each workspace with access privileges for secure content sharing with other team members. Administrators may assign default or “Home” folders for each user. Pre-defined folders may also be accessed through a pull-down menu. Local workspace management on the users’ desktop allows users to easily compare their work-in-progress to the master designs in ENOVIA. Operations such as “delete,” “move,” and “copy” are part of the local workspace management feature set. Subscriptions allow designer to be notified when a design of interest is checked-in by another team member. ENOVIA Designer Central keeps track of the relationship between associated documents, such as schematics and layout, so traceability is never lost even when working with third party designers.

Quick access to most-recently used design data

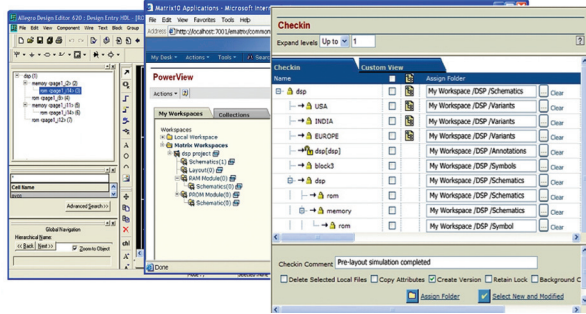
ENOVIA Designer Central keeps track of design activity and enables users to create collections for short-term storage of designs that will be used again. Thus, with ENOVIA Designer Central, the need to search is reduced greatly.

Collaboration with Design Teams

From within their application of choice, designers can easily find and access data vaulted in ENOVIA. Users can create folders within each workspace with access privileges for secure content, and share them with team members inside and outside of their organization. Only a user with the CAD administrator role has the authority to create start design templates that are assigned to a particular site, sites or made globally available to all users. Only members of that site can utilize design templates assigned to those sites for creation of designs for storage into specific folders. ENOVIA Designer Central embeds visualization capabilities to allow electrical and mechanical designers to markup and redline schematics, printed circuit board (PCB) layouts and MCAD models without requiring the native authoring tool. Furthermore, users can define workflows (or routes) for designs or documents that require review or approval. Routes can be defined with serial or parallel tasks.

Mixed Design Flows

Heterogeneous design environments comprised of multiple xCAD application vendors' software tools are no problem for ENOVIA Designer Central based products. In the age of mergers and acquisitions, organizations can hardly afford to consolidate their design flow on a single vendor. Allowing Multi CAD environments allows designers to keep their tool of their choice and still keep their designs synchronized with the single definition of the EBOM. For example, a company may require different ECAD and MCAD tools for designing different product sub-systems with the EBOM.



The collaborative effort between MCAD and ECAD disciplines to design PCB wiring assembly printed circuit boards has always been challenging. Challenges exist for PCB placement due to packaging constraints typically dictated by the MCAD designer. Other processes allow the PCB board designer to start with a simple MCAD board outline. In either case several iterations are required for a successful design. The process framework in ENOVIA Designer Central permits the exchange of design intent between disciplines in a single file format, the Intermediate Data Format (IDF). This format is output and read by many MCAD and ECAD applications. At this time this process is available between ENOVIA® Collaborative Design for Pro/ENGINEER and Cadence and Mentor Boardstation.

Notification

Rapid review of change ideas leads to faster design throughput. Users of ENOVIA Designer Central have the ability to subscribe to a design and set events for notification. When any user changes design in a work-in-process environment, all users that have subscribed to that design are notified of the change automatically, reducing last minute mistakes. Design change reports include status of new and modified designs as well as designs that have been renamed.

Optimized for WAN usage

ENOVIA Designer Central is designed to work with very large design sets by leveraging distributed file systems. This results in higher rates of user adoption and acceptance.

About ENOVIA

ENOVIA is the recognized leader in delivering collaborative PLM solutions. We enable companies from a broad range of industries to dramatically accelerate innovation, time-to-market and revenue generation by collaboratively developing, building and managing products. Our solutions facilitate the sharing of concepts, content and context across product lifecycles and throughout value chains of employees, customers, suppliers and partners.

ENOVIA collaborative PLM solutions help global enterprises bring together people, processes, content and systems to achieve a compelling competitive advantage. Our interoperable solutions unify and streamline processes across the product lifecycle, enabling companies to easily and cost-effectively work on projects within and outside of their enterprises. Our adaptable, scalable technology is built to accommodate the ever-changing marketplace.

Meeting Capabilities

ENOVIA Designer Central's online meeting capability enables design teams to review and collaborate on design data in real time. Discussion threads and markups are captured as part of the meeting and can be referenced at any time in the future.

Workflow

ENOVIA Designer Central's workflow (or route) capabilities enable a designer to obtain feedback when an online meeting is not possible. Routes can be defined with serial or parallel tasks for review and/or approval of design content.

Visualization

Having the ability to work on designs independent of the authoring tools improves communication and reduces the likelihood of late changes in the design process. ENOVIA Designer Central includes a web-based visualization component. This capability supports a variety of document formats and in certain circumstances data can be read natively with no translation, or for larger data sets, can be sent to a background process for translation in anticipation of future use. No files are downloaded to the client side, ensuring a secure work environment. In addition, thumbnail images are also available in certain displays to aid users in distinguishing different versions of the same design.

Supported Design Applications

ENOVIA Designer Central supports the following leading design applications. Customers can choose to manage one or more of these ECAD and MCAD tools with ENOVIA Designer Central:

- Cadence Allegro
- Mentor Graphics Design Manager
- Mentor Graphics Expedition
- Zuken CR-5000
- MicroStation
- Pro/ENGINEER
- Solid Edge
- SolidWorks
- NX
- CATIA V4
- Inventor
- AutoCAD and AutoCAD Mechanical

The Role of ENOVIA V6 and PLM 2.0

ENOVIA Designer Central 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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