

LIVE

ENOVIA Live Collaboration



ENOVIA® Live Collaboration (CPF) provides all required services to support all ENOVIA products and the Dassault Systèmes products for Product Lifecycle Management (PLM), delivered through the CATIA®, SIMULIA®, and DELMIA® brands. ENOVIA Live Collaboration and its optional products establish the necessary environment for end users to collaborate effectively during product development. ENOVIA Live Collaboration's rich business process services enable collaboration between all users with security based on functional roles, and allows management to measure the effectiveness of the overall product development process.

Key Benefits

- Deploy PLM solutions to solve immediate business problems, and quickly scale to support large global deployments.
- Collaborate with external partners, suppliers, and developers as early as possible in the development process.
- Increase external collaboration through role-based access while maintaining network and information security.
- Leverage the best practices developed in partnership with some of the world's most innovative companies while retaining your competitive advantage and adaptability.
- Realize powerful business benefits and metrics through global collaboration.

ENOVIA Live Collaboration turns the collective product intellectual property (IP) of the extended enterprise into profitable innovation. The product includes the following components:

- 3-tier architecture running in a JEE application server with a centralized database, which gathers all the data into a single repository
- A common data model that enables seamless process execution across all ENOVIA products
- Scalable architecture that enables multiple resources to support peak workloads
- Multi-site file replication using intelligent mechanisms that enable collaboration at remote sites without requiring a robust network connection
- Full HTTP/S network supporting proxy and firewall for all interactions between the client on the web and the servers behind their DMZ
- Role-, organization- and project-based security data management
- Full-text Indexing of both metadata and documents
- Right to execute bi-directional, asynchronous, message-based exchange of EBOM data with a non-DS PDM system
- 3D visualization with the 3DLive Examine viewer, which provides a subset of the viewing and mark-up capabilities available in ENOVIA® 3DLive

Product Overview

Pressure has never been greater for global enterprises to deliver innovative products to market quickly and profitably. To compete in this environment, companies need to increase top-line revenue growth by bringing innovative products and technologies to market and drive bottom-line profitability by driving efficiencies into new product development processes. In this increasingly outsourced environment, many companies accomplish non-core competencies outside their organization. The most successful are those companies that best manage and collaborate with their value chain in order to create a single virtual enterprise.

ENOVIA Live Collaboration provides companies with a single, secure environment that eliminates the barriers caused by geographically dispersed organizations and value chains. ENOVIA Live Collaboration enables the following standard capabilities:

- Single repository for all of the company's PLM company data, enabling real time, true collaboration between the different actors inside or outside of the company
- Standard-based world-class scalability, performance, and openness to support the largest, most complex deployments
- A rich interface experience common across all ENOVIA web-based products
- Virtual workspaces and process management to share product content securely for cross-functional collaboration of all product development content in repeatable workflow business process
- Metrics reporting to drive continuous business process improvements using pre-built reports
- Search and navigate PLM data such as parts, bills-of-material, documents, specifications and sourcing information
- Indexing capability of all metadata, documents and 3D representations to quickly retrieve connected information corresponding to PLM criteria
- Secured authentication connecting to the company LDAP, enabling SSO, and providing access to the data based on the working context and authorization level of the user
- Rich business process and system architecture capabilities to support distribution of data and federation to other ENOVIA or third-party systems.

Product Highlights

ENOVIA Live Collaboration Scalability, Performance, and Openness

ENOVIA Live Collaboration supports global, enterprise-wide deployments and is equipped with the industry's highest level of performance and scalability. The software is an ideal platform to support the product development process in any enterprise or in any industry. Key features and capabilities include:

World-Class Scalability

ENOVIA Live Collaboration's scalable 64-bit architecture enables the addition of industry standard web application servers for load balancing and geographically dispersed deployments. All users can benefit from centralized file management to upload and download their document IP. Optional remote file collaboration servers can be deployed at work sites throughout the world. As a result, large files remain close to the users who access those files most frequently, while ensuring that all users worldwide have easy access as needed.

Distributed File Store Management

Distributed file storage ensures optimal performance for remote users. Files are copied and placed at various remote file servers positioned close to the end-user for best file transfer times. To establish new remote file stores, administrators can leverage tools provided to clone existing file locations and pre-populate the remote sites with file data; otherwise, data is replicated on-demand as files are accessed by remote users. As disk storage runs low, administrators can purge files that are least-accessed while the master copy is still maintained at a different site. Note that an ENOVIA® File Collaboration Server product license is required for each remote site requiring distributed file store management

Single Database

All the PLM data is gathered in one single database, enabling true collaboration between people connected through DS PLM applications. The access control over the database is insured by the ENOVIA Live Collaboration, which is distributing back and forth the metadata information to the different clients.

Secure Authentication Environment

ENOVIA Live Collaboration provides different ways to restrict user access to the IP of the company. One approach is to store all user accounts in the ENOVIA V6 database. Alternatively, a company can use an existing LDAP server to manage the users.

Secure Application Control

ENOVIA Live Collaboration provides the ability to set up security at the application level. People and organization is used to associate a security context (project, organization & role) to a user, and thus, controls which piece of PLM information he can access, which actions he can perform depending on the PLM definition stage.

Network Security

ENOVIA Live Collaboration protects your data against accidental or unlawful destruction, loss or alteration and against unauthorized disclosure or access. Dassault Systèmes maintains a continuous Technological Security Intelligence to tackle the new trends and methods in term of network attacks.

Rich Interface Experience

The intuitive and consistent user interface provides many capabilities to help end-users manage their work. Features such as printer-friendly views, user interface personalization and visual cues are common throughout the ENOVIA interface.

Access to PLM Content

Read only access to key data elements is provided by ENOVIA Live Collaboration. All users can read and search V6 engineering work-in-progress status, parts, bills-of-material, documents, specifications, requirements, and sourcing information. All users can participate in change processes and approvals for this data with processes such as the Engineering Change Order (ECO) and Engineering Change Request (ECR).

Full-Text Search

ENOVIA Live Collaboration provides a unique user experience for searching structured metadata and file data. The full-text search capabilities leverage Exalead CloudView™ the industry's top enterprise search platform designed for information discovery and retrieval. The search solution provides fast, sub-seconds response information access using a simple, intuitive interface, allowing end-users to find, and analyze data more clearly and accurately. The embedded full-text search solution does not require additional infrastructure and setup requirements. If a customer does not wish to use full-text search, a toggle mode to enable/disable full-text search is provided in favor of traditional ENOVIA database searching.

3D Visualization

All ENOVIA products can take advantage of the Dassault Systèmes ENOVIA® 3DLive™ Examine to view and markup 3D data (if tessellated into CGR format) managed by ENOVIA® Engineering Central™ or ENOVIA® Designer Central™. Many 2D file formats are also supported such as BMP, CAL, PNG, RAS, TIF, TIFF, JPEG, JPG, RGB, HPGL, PS, SVG and many others. Capabilities include 2D and 3D viewing and navigation (zoom, rotate, etc.), print, redlining and measure. For a more extended visualization and navigation experience, ENOVIA 3DLive needs to be licensed separately.

Similarity is licensed under a separate product at runtime side: LSI – ENOVIA Live Similarity

3D Indexing

ENOVIA Live Collaboration provides a powerful and unique 3D indexing engine enabling an intuitive and fast search and navigation based on 3D representation within ENOVIA 3DLive, ENOVIA® VPM Central™ and ENOVIA® VPM Team Central™. The indexing computes 2D thumbnails to facilitate the quick recognition of the searched data based on its form. Another advanced feature is the similar search (Similarity is licensed under a separate product at runtime side: LSI – ENOVIA Live Similarity), to retrieve any 3D representations close to a reference one.

Diagnostics and Monitoring

ENOVIA provides monitoring tools to enable administrators to track and ensure proper operation of the ENOVIA system. The monitoring tool provides standard logging capabilities using standard IBM CBE (Common Base Event) monitoring log format. With the use of 3rd party monitoring tools from IBM, Microsoft and others, the monitoring information can be collected to provide instant alerts and notifications to recover system failure and downtime.

Standards-Based Open Environment

ENOVIA Live Collaboration's standards-based open environment enables organizations to implement a PLM strategy quickly and easily across diverse environments, applications and platforms. In addition, with Adaplets® customers can extend standard ENOVIA product capabilities to create a PLM federation with other enterprise systems. Adaplets are an ENOVIA proprietary technology to communicate with other data sources and represent this data as if it is native to the ENOVIA system. ENOVIA Live Collaboration provides run-time access to Adaplets. To develop a custom Adaplet, a customer must license ENOVIA® Studio Federation Toolkit (ADT).

EBOM Structure Synchronization Between ENOVIA V6 and Non-DS PDM Systems

ENOVIA Live Collaboration is used for the transfer of BOM information between ENOVIA Engineering Central and a non-DS PDM system without manual intervention. A single or multi-level BOM with associated metadata and associated documents can be transferred. It supports quantity rollup as well as reference designator transfers for electronics. From the review of the BOM, a user has the ability to instantiate the BOM coming from a non-DS PDM system as a starting point for the next generation design in ENOVIA V6, or to start the modification process for the next revision in ENOVIA.

- Part and document name mastered from V6 or non-DS system
- Attribute, lifecycle state and versioning synchronization on parts and documents
- Communication channel can be secured using standard protocols (HTTP/S and FTP/S) between ENOVIA V6 and non-DS system
- Gateway controller manages the asynchronous transfer of events between the V6 bus adapter and the x-PDM bus adapter. The controller is deployed on a separate application server than V6 and can be administered with a web-based monitoring user interface
- Published web services for customers and partners to develop X-PDM adapters
- Published V6 XPDMXML xml schema to exchange metadata
- Out of the box "mirrorBOM" event for EBOM exchange automation

ENOVIA Live Collaboration Document and Process Management in Virtual Workspaces

Virtual teams are essential in order to compete in today's environment of outsourced product design and manufacturing, compressed product lifecycles, and custom product configurations. These teams require a robust set of collaborative services to increase the innovation, speed, and effectiveness dramatically of core processes (product development, program management, strategic sourcing and supplier management, etc.).

Key features and capabilities include:

Profile Management

ENOVIA Live Collaboration provides self-service profile management capabilities so end users with added responsibilities can add new users to the system or modify an existing user's definition. Profile management capabilities include specifying a user's email address, mailing address, physical location which can be used for optional file replication, and assigned roles and organizations. In addition, users are assigned to specific products in order to pass license key checks.

Conversion of Currency and Unit of Measure

Currency or unit of measure values may be displayed as entered, or converted to the preferred format automatically. This allows a user to see all values in their local or other preferred denomination. In addition, multiple currency exchange rate conversions may be defined for an organization, each with a different effective date for the conversion. This allows a company to provide accurate exchange rate conversions for different parts of the year as the exchange rate fluctuates.

Assemble Virtual Teams

Users can create a collaborative digital workplace of global team members, called a workspace. A workspace can be used by geographically distributed team members who offer expertise from various disciplines such as e-design, engineering, manufacturing, procurement, and finance. Within the secure workspace, members can create folders; organize, view, review, mark-up and approve documents and other product data, subscribe to event notifications, and schedule meetings.

Secure Access

The software allows workspace leads to set a default access for each member in the workplace, and folder structures. This access controls the user's visibility for the workspace, the folder hierarchy and the content managed within the folders.

Manage Documents and Content

Users can manage and organize shared documents and structured product data—such as parts and requests for quote (RFQs)—in multilevel folder and sub-folder structures. Users can also revise and checkin/check-out documents and review history and comments.

Meetings

With online meeting management support, users are able to track decisions being made during the product development cycle and take control of every meeting from beginning to end. Capabilities exist to plan, announce, manage and track the results of all meetings. Meeting participants and non-participants are able to access up-to-date meeting information, actions and deliverables at any time. Meetings can be tracked against any ENOVIA object.

Decisions

Users can keep track of and record the decision-making process. With ENOVIA Live Collaboration's "decision" capabilities, users across multiple organizations can stay informed of pertinent product decisions being made during the product development cycle. Decisions can be associated with meetings as well as any other ENOVIA object.

Issue Management

In order to facilitate change and formally raise and track product gaps and concerns, issues can be identified against any ENOVIA object. Users can raise an issue for analysis and resolution. Issues are classified in order for an "issue manager" to be assigned to manage its lifecycle and determine its validity and resolution. Note that ENOVIA Live Collaboration's issue management capabilities are often used to initiate the formal change process offered by other ENOVIA products such as ENOVIA® Engineering Central™.

Business Process Workflows

Companies can use workflow management capabilities to model repeatable business processes for creating business objects in the ENOVIA® system, based on an organization's standard operating procedures. Workflows are created based on administrator-defined process templates that define a network of activities that must be completed. These activities are linked together with conditional expressions so that different activity sequences may be pursued or to repeat activities. The workflow activities can be performed by ENOVIA system users or they can launch programs to perform the required tasks automatically.

Manage Lifecycle and Approvals

Each ENOVIA business object goes through a lifecycle that captures the steps (or states) of its creation, review, release, and/or obsolescence. ENOVIA products come with predefined lifecycles for each object type managed, but these lifecycles are configurable using the ENOVIA® Studio Modeling Platform. A single object type can have multiple lifecycles depending on the business need. In order to go from one state of a lifecycle to another, electronic signature approvals are needed often. Signatures are either part of the lifecycle definition or supplemented by end-users as part of defining the approval process for a given object. Dynamic signatures defined by end-users are done using routes. A route contains several steps of approval that must occur. Each step can contain one or more signatures for specific individuals or roles. The route must be completed before the business object is promoted to its next lifecycle state. To simplify the approval process and facilitate a repeatable approval process, standard route templates can be leveraged also.

Automatic Notifications

The product enables users to use subscriptions for proactive notification when product data changes of interest occur. Users can either subscribe to any data element or administrators can subscribe them with "pushed" subscriptions automatically.

Create Discussion Threads

Users stay up-to-date with the latest information by monitoring discussion threads of interest. Users have the ability to subscribe to individual threaded discussions along with monitoring actively discussed topics throughout the system. Appending a reply to a discussion is easy by responding to an email message received as a subscription.

PDF Rendering with Adlib Express

PDF rendering functionality and configurable watermarks extend the ENOVIA user interface by providing a standard, read-only format for sharing data with non-ENOVIA users and/or archiving. The PDF rendering of UI forms requires Adlib Express Server which is licensed separately from Adlib Software.

ENOVIA Live Collaboration Business Metrics

Companies are constantly looking for ways to differentiate in an increasingly competitive market. While most of the attention is focused on improving products and services, more companies are differentiating themselves by how they do business. ENOVIA Live Collaboration provides reporting capabilities focused on metrics and statistics to better assess the performance of an organization. Key features and capabilities include:

Pre-Built Reports Provide Answers to Key Questions in the Shortest Time

ENOVIA Live Collaboration provides several reports for improving the decision-making process. These reports are based on ad hoc queries that can be executed in real-time in order to monitor the organization's performance. Users and business managers personalize these to keep track of the metrics most important to them on a daily basis. All report data can be presented graphically and/or in a table, that calculates changes from period to period. In addition, the data can be exported to spreadsheet for further analysis.

Streamline Business Processes by Eliminating Non-Value-Add Activities

Organizations can streamline the business process by analyzing process steps and eliminating non-value added activities. Users can run a "Lifecycle Duration" report to analyze the cycle time it takes to complete the development process. Analysis of this information can indicate bottlenecks in the process, which could lead to workflow process changes or new initiatives, (training programs or allocation of additional staff for continuous monitoring or process improvement). This report provides answers for:

- What state in the lifecycle is a bottleneck to overall performance?
- How much time does an object spend in its preliminary review versus its cross-functional review?
- How have past process improvements impacted the time spent at each step in the process?

Track Performance Indicators to Understand the Effect on Performance

There are several standard reports for measuring current activities, workloads, trends, and throughput. These reports enable organizations to focus on the business process and related activities as a mechanism for reacting quickly to business changes. With relevant and timely information of the business operations, users can make better decisions.

- Object Count Report – this report focuses on reporting current activity or trends based on a user-specified query and then summarizing and grouping the results graphically or textually. For example, the report could answer how many incidents are currently open and who they are assigned to.
- Object Count over Time Report – this report can be more generalized by allowing the user to filter the data on any criteria and grouping by any date-based field. For example, the report could determine the number of open issues by priority.
- Object Count in State Report – this report assesses the throughput of the organization by graphically depicting the number of business objects of a given business type that have reached a given state. For example, the report could answer how summer and holiday vacations impact the number of parts that are released.

Configure Pre-Built Metrics Reports to Suit Your Precise Business Requirements

Users can easily configure any of the pre-built metrics reports to suit the organization's precise business requirements.

The standard reports are generic and can accept user input for establishing the data set for the report. Business administrators can predefine the reports for execution without user input.

Personalized Dashboard to Suit a User's Unique Reporting Needs

End users can define their own personalized dashboards with the reports that best suit their needs. The dashboard provides a single version of the truth that connects goals to reality, helping users confront pressing business issues and execute more effectively.

The Role of ENOVIA V6 and PLM 2.0

ENOVIA Live Collaboration supports PLM 2.0, product lifecycle management online for everyone, and the ENOVIA V6 values, which are:

- Global collaboration innovation
- Single PLM platform for intellectual property (IP) management
- Online creation and collaboration
- Ready to use PLM business processes
- Lower cost of ownership.



Delivering Best-in-Class Products



Virtual Product



Information Intelligence



3D Design



Virtual Planet



Realistic Simulation



Dashboard Intelligence



Digital Manufacturing



Social Innovation



Collaborative Innovation



3D Communication

Dassault Systèmes, the **3DEXPERIENCE** Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 150,000 customers of all sizes, in all industries, in more than 80 countries. For more information, visit www.3ds.com.

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